



NEVADA DEPARTMENT OF TAXATION

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Division of Local Government Services

**Expected Life Study:  
Telecommunications and Cable Assets**

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# Expected Life for Telecommunications and Cable Distribution Assets: Literature Review Summary and Recommendations

Nevada Department of Taxation  
April 2, 2015

## ***Telecommunications Assets***

In 2014, two telecommunications companies appealed the taxable values of their assets located in multiple counties throughout Nevada. The State Board of Equalization (“State Board”) heard the appeals and found that varying methodologies had been used by county assessors to establish taxable value. As a result, the State Board recommended the Department conduct one or more workshops to standardize the classification and applicable service lives of telecommunications assets.<sup>1</sup> In response to the State Board’s request, the Department has surveyed available literature on service lives of telecommunications assets for presentation at workshop. As a result of the literature review, the Department recommends amending the 2016-2017 Personal Property Manual to reflect the following:

1.) Break out the current list of telecommunications assets in the Personal Property Manual into more discrete categories to better reflect function and service life. Provide better descriptions of each category as to what the category contains.

To effectuate this recommendation, the Department selected the descriptions of telecommunications assets listed in the chart of accounts for the telecommunications industry as listed in the Code of Federal Regulations, Title 47 Chapter 1, Part 32.2112 through 32.2441. *See Exhibits 28 and 29.*

2.) The literature indicates that fiber optic cable has a service life longer than the 15 years currently indicated in the Personal Property Manual. Exhibits 1, 2, 3, 4, 7, 8, 9, 11, 12, and 13 are submitted in support of a revised service life of 20 years for fiber optic cable placed in service in 2008 and thereafter. Fiber optic cable placed in service prior to 2008 would remain at the 15 year service life.

Exhibit 1 is the Marshall-Swift Life Expectancy Guidelines. The asset life ranges from 28 to 42 years for distribution assets. Exhibit 2 is IRS Publication 946 and it indicates a 24 year class life for telephone distribution plant. Exhibit 3 is the FCC depreciation ranges adopted in Docket No. 98-137 (December 17, 1999). All non-metallic cables, whether aerial, underground, buried, or intrabuilding network were assigned a projected life range of 25 to 30 years. A 2007 appraisal of AT&T network assets indicates a financial life of 20 years for fiber.

Corning, a principal manufacturer of optical fiber, states that the intended service life for optical fiber cables often is in excess of 25 years. *See Exhibit 8.* Technology Futures, Inc., which provides depreciation and valuation services for major telecommunications carriers recommended in 2008 that the depreciation life for *newly-installed fiber* optic cable is 20 to 25 years, and reflects the combined

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<sup>1</sup> State Board Chairman Wren stated “it’s apparent that we need to do something to make sure that everybody is on the same page in the future on these and I don’t know how you do that. Do you do it with a workshop or do we call everybody in. . .” *See Transcript, October 9, 2014, p. 236, ll. 14-20.* The request was reiterated later in the hearing after one assessor stated she disputed that conduit should be classified as personal property, to which Mr. Wren replied “And that’s why I want to have a workshop to address that specifically and put specific labels on these.” *See Transcript, October 9, 2014, p. 266, ll. 11-21.*



impacts of physical mortality, technological substitution, and access line losses due to competition. See *Exhibit 9*.

In contrast to the service lives discussed in Exhibits 1 through 4, 8, and 9, Exhibit 7 indicates that Windstream, a telecommunications Tier 2 company, has been approved by the IRS to place its fiber-optic and copper lines into a Real Estate Investment Trust ("REIT") because they qualify as real property. In a decision by the Virginia Tax Commissioner on the application of sales and use tax, it was found that fiber optic cable becomes real property once it is buried underground. See *Exhibit 12*. Similarly, in a ruling by the Pennsylvania Department of Revenue in which the telecommunications taxpayer asserted that fiber was real property, the Department agreed with the taxpayer's assertion that dark cable becomes non-taxable real property when it is combined with other fiber in an underground conduit. See *Exhibit 13*. By comparison, at least one vendor asserts that copper cables are designed based on a life expectancy of 30 years. See *Exhibit 17*.

3.) The literature indicates certain assets have service lives longer than those provided in NAC 361.1375(3). As a result, the Department considered whether those assets should be considered a "structure" as that term is used in NRS 361.035(1)(a). "Structure" is also included in the term "improvement" as that term is defined in NAC 361.1133. The Attorney General opined in AGO 2012-10 that "as part of the definition of real property a structure is per se an improvement upon real property."

In appraisal literature, a structure is also defined as an edifice or building or an improvement.<sup>2</sup> The International Association of Assessing Officers ("IAAO") defines an improvement as "anything done to raw land with the intention of increasing its value. Thus a structure erected on the property constitutes one very common type of improvement, although other actions, such as those taken to improve drainage, are also improvements." Black's Law Dictionary (4<sup>th</sup> Edition) defines structure as any construction or piece of work artificially built up or composed of parts joined together in some definite manner, and gives as examples "poles connected by wires for the transmission of electricity;" "a railroad track;" and a "mine or pit."

One court has said that a "structure" is more specific in meaning than "improvement." The court further said "a structure is an assemblage of building materials for the primary purpose of supporting, sheltering, containing, enclosing or housing persons or property."<sup>3</sup>

The Department also considered the IRS revised regulations regarding the definition of real estate investment trust ("REIT") property provided in REG-150760-13 as of June 2, 2014. The IRS in part revised its regulations regarding what types of assets should be classified as real property because of a growing number of companies requesting private letter rulings asking that their properties be considered real property, among them data centers and at least one telecommunications company. See *Exhibits 6 and 7*.

Based on these definitions, and for other reasons listed below, the Department recommends that equipment shelters, poles and conduit be considered real property.

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<sup>2</sup> See *American Institute of Real Estate Appraisers, The Dictionary of Real Estate Appraisal, (1984)*.

<sup>3</sup> *Howell Township v. Monmouth County*, 18 N.J. Tax 149 (1999).

## Poles

Exhibits 6, 10, 11, 19, 20, 21, 22, 23, and 24 are submitted in support of a service life for poles significantly greater than 30 years.

Exhibit 6 is IRS Revenue Bulletin regarding REG-150760-13 issued June 2, 2014. At §1.856-10(d)(2)(iii)(B), the IRS concludes that other inherently permanent structures include microwave transmission, cell, broadcast, and electrical transmission towers; and telephone poles all of which are permanently affixed distinct assets.

Exhibit 10 is an educational power-point developed by John Adams on behalf of *BICSI*, which is a professional association supporting the advancement of the information and communications technology community. The topic involved issues regarding customer-owned outside plant (“OSP”), or “telecommunications infrastructure designed for installation exterior to buildings.” The author concluded at page 54 of the exhibit that the useful life of OSP Pathways and spaces is 40 years and the useful life of OSP cabling is 30 years. OSP pathways include both underground and aerial systems. Underground pathways include direct buried and buried duct/conduit (page 56); and aerial pathways include poles (page 57).

Exhibit 11 references the Telecommunications Industry Association Standard TIA-758-B, which states that “Customer-owned OSP pathways may include aerial, direct-buried, underground (e.g., duct), and tunnel distribution techniques. Customer-owned OSP pathways and spaces specified by this Standard are intended to have a useful life in excess of forty (40) years.”

Exhibit 18 is a technical bulletin written by Dr. Jeffrey J. Morrell, Oregon State University and published by the North American Wood Pole Council. He discusses a methodology for determining pole service life using an adjusted annual replacement rate of .5% reported by 261 utilities across the country, suggesting that the average pole service life would easily reach 80 years. Contained in the study is a map showing pole deterioration zones, with Zone 1 having the lowest decay hazard zone. Nevada is in Zone 1. *See Page 119.*

Exhibit 19 is a newsletter published by the Western Wood Preservers Institute dated 1996. The newsletter quoted Dr. Morrell (Exhibit 18) as saying “there is an increasing body of evidence that average services lives may extend to 80 to 150 years where poles are properly specified and maintained.” The newsletter also reviewed other surveys of utilities and reported in Table 1 that the average age of transmission line poles ranged from 32 to 57 years, and that 83% to 100% of the poles were still in service. “When actual line inventories and inspection records are studied, significantly longer projected service lives are indicated.” *See page 126.*

Exhibit 20 discusses the extended service life of wood poles when applying remedial treatments. The study used the Zone map in Exhibit 18 and showed that the average service life of wood poles without treatment in Zone 1 is 49.8 years. *See pages 128-129.*

Exhibit 21 is a summary of the average service life reported by Nevada centrally-assessed electric utilities in FERC Form 1 (2013) for towers and fixtures, poles and fixtures, and underground conduit. The median of the average service life reported by Southern California Edison, Sierra Pacific, Nevada Power, and Idaho Power for towers was 65 years; poles, 55 years; and underground conduit, 55 years.

Exhibit 22 is a research report written by Adam Crosby in 2011. The report discusses the structural design of utility distribution poles and light poles, including the poles and foundations. As noted in the report, utility poles often support wires and other components for many utilities such as electric power, telecommunications, cable television, and fiber optic. The author stated that in Georgia, the study area, a very small percentage of the utility distribution poles were owned, designed, and maintained by telecommunication companies. In most cases, a telecom company wants to add its utility lines and equipment to an existing utility pole owned by a power company. *See page 138.* The report discusses the types of utility distribution poles and when each type is used in a transmission system. The rule of thumb for setting depth for tangent poles is 10% of the total pole length plus 2 feet (a forty foot pole would be buried to a depth of 6 feet). *See page 141.* Poles are designed to withstand specified loads.

Exhibit 23 is a report dated August 7, 2013, regarding a life cycle assessment study commissioned by the Steel Market Development Institute. The report noted that based on “prevailing industry data,” wood poles were assumed to have a 40 year life span, while steel poles were assumed to have an 80 year life span. *See page 158.*

See the “Comparison of the 2016-2017 Personal Property Manual to Other Sources” for a summary of service lives reported in literature. The lowest is the 1998 FCC Depreciation rate category of 25-35 years (Exhibit 3), and the highest is 75-80 years reported by the wood pole industry (Exhibits 18, 19, and 20) and the steel industry (Exhibit 23). In general, Marshall-Swift reports “distribution” asset lives from 28 to 42 years, with 35 being the median (Exhibit 1).

### **Conduit**

Exhibits 3, 4, 10, 11, 14, 15, and 16 are submitted in support of a service life for conduit significantly greater than 30 years.

Conduit is the infra-structure protecting cables and may be further defined as the duct, pipe, tube, channel or trough used to protect communications cable from both physical and environmental abuse. According to one source, “in underground installation, conduit protects cable from shifting rocks, aggressive rodents, and/or damage from hand shovels. Underground cable that is in conduit is easy to replace or upgrade. The old cable can be pulled out of the conduit and the new pulled in without extensive and expensive digging.”<sup>4</sup> In metropolitan areas, multiple conduits are often grouped as “duct banks.” In addition, a large percent of underground fiber optic cable is installed in conduit.<sup>5</sup>

The FCC adopted depreciation ranges in Docket No. 98-137 dated December 17, 1999 which projected the life range of conduit systems between 50 and 60 years. *See Exhibit 3.* Similarly, a 2007 appraisal of AT&T assets estimated a financial life for conduit of 50 years. *See Exhibit 4.*

As mentioned above for poles for Exhibit 10, BICSI also concluded at page 54 of the exhibit that the useful life of OSP Pathways and spaces is 40 years and the useful life of OSP cabling is 30 years. OSP pathways include direct buried and buried duct/conduit (page 56). Also as previously mentioned in Exhibit 11, the Telecommunications Industry Standard also concludes that OSP pathways have a useful life in excess of 40 years (page 80).

The United States Government Accountability Office (“GAO”) conducted a performance audit on effectively deploying broadband conduit through Federal highway projects, released on June 27, 2012.

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<sup>4</sup> <http://www.polywater.com/commcabl.html>, retrieved 3-27-15, Exhibit 15.

<sup>5</sup> Ibid.

The audit recited that “industry documentation estimates that the expected useful life of fiber cables is between 20 and 25 years and that the expected useful life of underground conduit is between 25 and 50 years.” *See Exhibit 14, page 90.*

Exhibit 15 is an article about installing communications cable in conduit and states that “the old cable can be pulled out of the conduit and the new pulled in without extensive and expensive digging.” *See page 93.*

The New York State Department of Taxation and Finance issued an advisory opinion with regard to the application of sales tax on purchases of construction materials including conduit for a utility company’s telecommunications network. (TSB-A-05(20)S, May 27, 2005). The opinion stated that an installation of conduit on private property pursuant to an easement and which substantially adds to the value of the real property or prolongs the useful life of the real property, becomes permanently affixed to the real property so that removal would cause material damage to the property or article itself and is intended to become a permanent installation, qualifies as a capital improvement to real property. *See Exhibit 16, page 108.* The opinion further stated that “conduit is, rather, a structure which houses Phone Company’s wires and cables, and, by itself, is not for use or consumption directly. . .” *See page 111.*

### **Equipment Shelters**

Equipment shelters, like those found in the 2016-2017 Rural Building Manual, are often small, pre-fabricated modular buildings used for weather-and vandal-resistant equipment storage. *See Exhibit 26, pages 198-199.*

The State Board of Equalization specifically ruled in Case No. 14-306 and consolidated telecommunication appeals, Finding of Fact #8, that telecommunication equipment shelters are not personal property because they are structures permanently affixed to the ground with foundations and should be treated as real property with a 50 year economic life pursuant to NRS 361.227(1)(b). *See Exhibit 24, page 169.* In the transcript of the hearing (Exhibit 25), State Board members commented at page 234, beginning at line 4:

CHAIRMAN WREN: As far as the buildings, the SCIF buildings or whatever you want to call them, they're concrete buildings that are concrete foundations with a crane. The definition of real property is something that is rather permanently affixed. If you have to take a crane to put something on something, that's rather permanently affixed. So I agree with the three counties that have assessed those at 50, I agree with them. I consider it real property. MEMBER MESERVY: And I have no problem with that. I agree. CHAIRMAN WREN: Okay. (*See page 188 of the Exhibits.*)

Exhibit 21 is comparison of service lives of electric utilities doing business in Nevada, as reported on the Federal Energy Regulatory Commission (“FERC”) Form 1. The average service life of the 4 companies for transmission plant towers and fixtures is 65 years; and for distribution poles, towers, and fixtures is 47.5 years. *See page 133.*

### ***Cable and Other Program Distribution Assets***

The technology evolution of the telecommunications and cable industries has been dubbed “convergence.” Network convergence refers to the provision of telephone, video and data communication services within a single network. In other words, one pipe is used to deliver all forms of

communication services. The driving force of the convergence of these industries is the “digital revolution” where information is digitally transferred and managed.<sup>6</sup>

Network convergence was first recognized in Nevada with the passage of AB 773 (1993) which allowed cable television systems to offer telecommunication services to consumers on the same basis as telephone companies. The bill also states that all providers of telecommunication services must be regulated in a fair and impartial manner to promote economical and efficient service.<sup>7</sup> During hearings held by the Legislative Committee on Taxation, Public Revenue and Tax Policy (2007) industry representatives testified that “they would like to see a regulatory and tax system that treated similar services provided by different providers similarly.”<sup>8</sup>

Keeping network convergence in mind, the Department recommends additional language be added in the description of cable and other program distribution. The language to be added is as follows:

Property that is comparable to property described as “Telephone Distribution Plant,” and used for two-way exchange of voice and data communication must be treated as the equivalent of telephone communication. Comparable equipment does not include cable television equipment used primarily for one-way communication. IRS Revenue Bulletin 2003-32 (Rev. Proc. 2003-63) dated August 11, 2003 states that “one-way communication services involve services in which broadcast and video programming signals are sent only downstream, that is, from the headend to subscribers; and two-way communication services involve services in which property is used for the two-way exchange between the headend and subscribers of voice and data communications which is the equivalent of telephone communication. Internet access through a cable modem and telephony (including IP (internet protocol) telephony also known as voice-over IP) are examples of two-way communication services.” *See also page 107, Publication 946 (2014).*

Additionally, in order to effect equal treatment for similarly situated property as between cable and telecommunication, the Department recommends adding the following categories and associated service lives be added:

Non-metallic, fiber optic cable installed prior to 2008:	15 years
Non-metallic, fiber optic cable installed during or after 2008:	20 years
Poles	Real Property
Conduit	Real Property

To the extent that electric power generation plant is used, the Department also recommends adding the following category and associated service life be added for equality of treatment with similarly-situated property of the electric industry:

Electric Power Generating and Distribution Systems	30 years
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<sup>6</sup> Lamb, Robert B., “Impact of Converging Industries on Corporate Strategy,” retrieved 8/12/11 from [http://www.stern.nyu.edu/mgt/courses/b2101/lamb/download/convergence\\_presentation\\_slides.ppt#284,24,The Convergence](http://www.stern.nyu.edu/mgt/courses/b2101/lamb/download/convergence_presentation_slides.ppt#284,24,The%20Convergence)

<sup>7</sup> Legislative Counsel Bureau, “Study of Telecommunication Services in Nevada,” (January, 2005), p. 18.

<sup>8</sup> LCB Bulletin No. 07-16, “Legislative Committee on Taxation, Public Revenue and Tax Policy” (January 2007), p. 4.

# Telecommunications Asset Service Life In General

# LIFE EXPECTANCY GUIDELINES

SECTION 97 PAGE 21  
Exhibit 1 October 2012

## FURNITURE, FIXTURES AND EQUIPMENT

INDUSTRY GROUP	ASSET RANGE LIFE IN YEARS			INDUSTRY GROUP	ASSET RANGE LIFE IN YEARS		
Logging, timber cutting	5	6	7	Railroads, machinery and equipment	11	14	17
Machinery manufacturing, except as otherwise listed	8	10	12	structures	24	30	36
Meatpacking	9.5	12	14.5	tracks	—	10	—
Medical and dental supply production	—	9	—	wharves and docks	16	20	24
Metalworking machinery manufacturing	8	10	12	Railroad transportation equipment manufacturing	9.5	12	14.5
Mining and quarrying	8	10	12	locomotive manufacturing	9	11.5	14
Motion picture and television production	9.5	12	14.5	Recreation and amusement	8	10	12
Motor transport, freight	6.5	8	9.5	Residential furniture*	7	10	12
general purpose trucks, light	3	4	5	multi-residential	2	3	5
heavy	5	6	7	Restaurant and bar equipment*	—	10	—
tractor units (over-the-road)	3	4	5	Restaurant equipment, fast foods*	—	7	—
trailers and trailer-mounted containers	5	6	7	Retail trades, fixtures and equipment	7	9	11
Motor transport, passenger	6.5	8	9.5	Rubber products manufacturing	11	14	17
automobiles, including taxis	2.5	3	3.5	special tools	3	4	5
buses	7	9	11	Sawmills, permanent	8	10	12
Motor vehicle and parts manufacturing	9.5	12	14.5	portable	5	6	7
special tools	2.5	3	3.5	Service establishments	7	9	11
Office furniture and equipment	8	10	12	Ship and boat building machinery and equipment	9.5	12	14.5
Optical lenses and instrument manufacturing	8	10	12	dry dock improvements	13	16	19
Paints and varnishes	7.5	9.5	11.5	special tools	5	6.5	8
Paper and pulp manufacturing	10.5	13	15.5	Soft drink manufacture and bottling	9.5	12	14.5
converted paper, paperboard and pulp	8	10	12	Steam production and distribution	22.5	28	33.5
Petroleum and natural gas, drilling, onshore	5	6	7	Stone products manufacturing	12	15	18
drilling, offshore	6	7.5	9	Sugar and sugar products manufacturing	14.5	18	21.5
exploration and production	11	14	17	Telephone, central office equipment	—	18	—
marketing	7	9	11	distribution	28	35	42
petroleum refining	13	16	19	station equipment	8	10	12
pipeline transportation	17.5	22	26.5	Textile products, including finishing and dyeing	7	9	11
Plastic products manufacturing	9	11	13	manufacture of nonwoven fabrics	8	10	12
special tools	3	3.5	4	manufacture of yarn, thread and woven fabrics	9	11	13
Plastics manufacturing	7.5	9.5	11.5	manufacture of textured yarns	6.5	8	9.5
Primary metals production, nonferrous and foundry				Theater equipment	8	10	12
products	11	14	17	Tobacco and tobacco products	12	15	18
special tools	5	6.5	8	Vegetable oil products	14.5	18	21.5
Primary steel mill products	12	15	18	Waste reduction and resource recovery	8	10	12
Printing and publishing	9	11	13	Water transportation	16	20	24
Professional and scientific instruments	8	10	12	vessels, barges and tugs	14.5	18	21.5
Radio and television, broadcasting	5	6	7	Water utilities	40	50	60
manufacturing*	—	10	—	Wharves, docks and piers	—	20	—
Railroad cars and locomotives	12	15	18	Wholesale trade fixtures and equipment	7	9	11
				Wood products and furniture manufacturing	8	10	12



## FURNITURE, FIXTURES AND EQUIPMENT

Most of the following useful lives for depreciable assets other than buildings, by industry groups, are extracted from U.S. Treasury Department Internal Revenue Service Publication 946 titled "How To Depreciate Property". The midpoints of these ranges are listed under the Class Life system outlined in the "Table of Class Lives and Recovery Periods" Publication 946. They are presented here in alphabetical order for your convenience. For more complete descriptions or definitions, see Publication 534. See top of Page 12 and Pages 2 and 3 for further life expectancy and life range discussions.

Lives marked with an asterisk (\*) are not from the Internal Revenue Service publication, but are a composite of studies of equipment, bookkeeping practices and appraisers' opinions as compiled from a consensus of recognized trade groups, suppliers and other interested parties.

INDUSTRY GROUP	ASSET RANGE LIFE IN YEARS			INDUSTRY GROUP	ASSET RANGE LIFE IN YEARS		
Aerospace industry	8	10	12	Dairy products manufacturing	9.5	12	14.5
Agriculture, machinery and equipment	8	10	12	Data handling equipment, except computers	5	6	7
Animals, cattle, breeding or dairy	5.5	7	8.5	computers and terminals*	3	5	7
hogs, breeding	2.5	3	3.5	Distilling	9.5	12	14.5
horses, breeding or work	8	10	12	Electrical equipment manufacturing	8	10	12
sheep and goats, breeding	4	5	6	Electric utilities, hydraulic production	40	50	60
Cotton ginning	9.5	12	14.5	nuclear or combustion turbine production	16	20	24
Trees and vines, almonds, pecans, and walnuts*	—	40	—	nuclear fuel assemblies	4	5	6
apples, figs, and olives*	—	50	—	steam production	22.5	28	33.5
apricots, peaches, and nectarines*	—	20	—	transmission and distribution facilities	24	30	36
cherries, pears, and citrus*	—	40	—	Electronic equipment manufacturing	5	6	7
grapes, plums, and prunes*	—	35	—	semiconductor manufacturing equipment	—	5	—
Aircraft and all helicopters, except commercial aircraft	5	6	7	Fabricated metal products	9.5	12	14.5
commercial aircraft	9.5	12	14.5	special tools	2.5	3	3.5
Amusement and theme parks	10	12.5	15	Fishing equipment, excluding boats and barges*	—	4	—
Apparel and fabricated textile manufacturing	7	9	11	Food and beverage production	9.5	12	14.5
Automobile repair shops	8	10	12	special-handling devices	3	4	5
Bakeries and confectionery production	9.5	12	14.5	Fur processing	7	9	11
Barber and beauty shops	—	10	—	Gas utilities, distribution	28	35	42
Billboards	16	20	24	liquefied natural gas production	17.5	22	26.5
Brewery equipment	9.5	12	14.5	manufactured gas production	24	30	36
Cable television, headend facilities	9	11	13	natural gas production	11	14	17
microwave systems	7.5	9.5	11.5	natural gas-coal gasification production	14.5	18	21.5
program origination	7	9	11	pipelines and related storage	17.5	22	26.5
service and test	7	8.5	10	Glass and glass products	11	14	17
subscriber connection and distribution	8	10	12	special tools	2	2.5	3
Canneries and frozen food production	9.5	12	14.5	Grain and grain mill products manufacture	13.5	17	20.5
Cement manufacture	16	20	24	Gypsum products	12	15	18
Chemical and allied production	7.5	9.5	11.5	Hand tools*	—	5	—
Clay products manufacturing	12	15	18	Hospital furnishings and equipment*	7	10	15
Clocks and watches, manufacturing	8	10	12	magnetic resonance imaging	—	5	—
electronic instrumentation	5	6	7	Hotel and motel furnishings and equipment	8	10	12
Cold storage and ice-making equipment*	—	18	—	Industrial steam and electric generation	17.5	22	26.5
Cold storage warehouse equipment*	—	10	—	Information systems, computers and peripheral equipment	5	6	7
Condiments, manufacturing and processing*	—	10	—	Jewelry products and pens	9.5	12	14.5
Construction equipment, general construction	5	6	7	Knitwear and knit products	6	7.5	9
marine construction	5	6	7	Land improvements, sidewalks, roads, etc.	—	20	—
				Laundry equipment	8	10	12
				Leather and leather products	9	11	13





Department of the Treasury  
Internal Revenue Service

## Publication 946

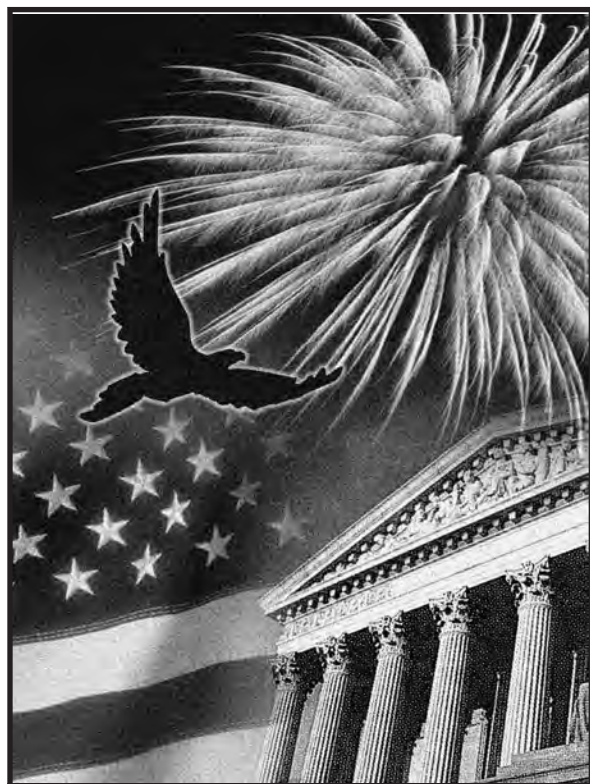
Cat. No. 13081F

# How To Depreciate Property

- **Section 179 Deduction**
- **Special Depreciation Allowance**
- **MACRS**
- **Listed Property**

For use in preparing

## 2014 Returns



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Table B-2. Table of Class Lives and Recovery Periods

Asset class	Description of assets included	Class Life (in years)	Recovery Periods (in years)	
			GDS (MACRS)	ADS
48.11	<b>Telephone Communications:</b> Includes the assets classified below and that are used in the provision of commercial and contract telephonic services such as: <b>Telephone Central Office Buildings:</b> Includes assets intended to house central office equipment, as defined in Federal Communications Commission Part 31 Account No. 212 whether section 1245 or section 1250 property.	45	20	45
48.12	<b>Telephone Central Office Equipment:</b> Includes central office switching and related equipment as defined in Federal Communications Commission Part 31 Account No. 221. Does not include computer-based telephone central office switching equipment included in class 48.121. Does not include private branch exchange (PBX) equipment.	18	10	18
48.121	<b>Computer-based Telephone Central Office Switching Equipment:</b> Includes equipment whose functions are those of a computer or peripheral equipment (as defined in section 168(i)(2)(B) of the Code) used in its capacity as telephone central office equipment. Does not include private exchange (PBX) equipment.	9.5	5	9.5
48.13	<b>Telephone Station Equipment:</b> Includes such station apparatus and connections as teletypewriters, telephones, booths, private exchanges, and comparable equipment as defined in Federal Communications Commission Part 31 Account No. 231, 232, and 234.	10	7*	10*
48.14	<b>Telephone Distribution Plant:</b> Includes such assets as pole lines, cable, aerial wire, underground conduits, and comparable equipment, and related land improvements as defined in Federal Communications Commission Part 31 Account Nos. 241, 242.1, 242.2, 242.3, 242.4, 243, and 244.	24	15	24
48.2	<b>Radio and Television Broadcastings:</b> Includes assets used in radio and television broadcasting, except transmitting towers. <b>Telegraph, Ocean Cable, and Satellite Communications (TOCSC)</b> includes communications-related assets used to provide domestic and international radio-telegraph, wire-telegraph, ocean-cable, and satellite communications services; also includes related land improvements. If property described in Classes 48.31–48.45 is comparable to telephone distribution plant described in Class 48.14 and used for 2-way exchange of voice and data communication which is the equivalent of telephone communication, such property is assigned a class life of 24 years under this revenue procedure. Comparable equipment does not include cable television equipment used primarily for 1-way communication.	6	5	6
48.31	<b>TOCSC—Electric Power Generating and Distribution Systems:</b> Includes assets used in the provision of electric power by generation, modulation, rectification, channelization, control, and distribution. Does not include these assets when they are installed on customers premises.	19	10	19
48.32	<b>TOCSC—High Frequency Radio and Microwave Systems:</b> Includes assets such as transmitters and receivers, antenna supporting structures, antennas, transmission lines from equipment to antenna, transmitter cooling systems, and control and amplification equipment. Does not include cable and long-line systems.	13	7	13
48.33	<b>TOCSC—Cable and Long-line Systems:</b> Includes assets such as transmission lines, pole lines, ocean cables, buried cable and conduit, repeaters, repeater stations, and other related assets. Does not include high frequency radio or microwave systems.	26.5	20	26.5
48.34	<b>TOCSC—Central Office Control Equipment:</b> Includes assets for general control, switching, and monitoring of communications signals including electromechanical switching and channeling apparatus, multiplexing equipment patching and monitoring facilities, in-house cabling, teleprinter equipment, and associated site improvements.	16.5	10	16.5
48.35	<b>TOCSC—Computerized Switching, Channeling, and Associated Control Equipment:</b> Includes central office switching computers, interfacing computers, other associated specialized control equipment, and site improvements.	10.5	7	10.5
48.36	<b>TOCSC—Satellite Ground Segment Property:</b> Includes assets such as fixed earth station equipment, antennas, satellite communications equipment, and interface equipment used in satellite communications. Does not include general purpose equipment or equipment used in satellite space segment property.	10	7	10
48.37	<b>TOCSC—Satellite Space Segment Property:</b> Includes satellites and equipment used for telemetry, tracking, control, and monitoring when used in satellite communications.	8	5	8
48.38	<b>TOCSC—Equipment Installed on Customer's Premises:</b> Includes assets installed on customer's premises, such as computers, terminal equipment, power generation and distribution systems, private switching center, teleprinters, facsimile equipment and other associated and related equipment.	10	7	10
48.39	<b>TOCSC—Support and Service Equipment:</b> Includes assets used to support but not engage in communications. Includes store, warehouse and shop tools, and test and laboratory assets. <b>Cable Television (CATV):</b> Includes communications-related assets used to provide cable television community antenna television services. Does not include assets used to provide subscribers with two-way communications services.	13.5	7	13.5

\* Property described in asset guideline class 48.13 which is qualified technological equipment as defined in section 168(i)(2) is assigned a 5-year recovery period.

Table B-2. Table of Class Lives and Recovery Periods

Asset class	Description of assets included	Class Life (in years)	Recovery Periods (in years)	
			GDS (MACRS)	ADS
48.41	<b>CATV—Headend:</b> Includes assets such as towers, antennas, preamplifiers, converters, modulation equipment, and program non-duplication systems. Does not include headend buildings and program origination assets.	11	7	11
48.42	<b>CATV—Subscriber Connection and Distribution Systems:</b> Includes assets such as trunk and feeder cable, connecting hardware, amplifiers, power equipment, passive devices, directional taps, pedestals, pressure taps, drop cables, matching transformers, multiple set connector equipment, and convertors.	10	7	10
48.43	<b>CATV—Program Origination:</b> Includes assets such as cameras, film chains, video tape recorders, lighting, and remote location equipment excluding vehicles. Does not include buildings and their structural components.	9	5	9
48.44	<b>CATV—Service and Test:</b> Includes assets such as oscilloscopes, field strength meters, spectrum analyzers, and cable testing equipment, but does not include vehicles.	8.5	5	8.5
48.45	<b>CATV—Microwave Systems:</b> Includes assets such as towers, antennas, transmitting and receiving equipment, and broad band microwave assets is used in the provision of cable television services. Does not include assets used in the provision of common carrier services.	9.5	5	9.5
49.11	<b>Electric, Gas, Water and Steam, Utility Services:</b> Includes assets used in the production, transmission and distribution of electricity, gas, steam, or water for sale including related land improvements. <b>Electric Utility Hydraulic Production Plant:</b> Includes assets used in the hydraulic power production of electricity for sale, including related land improvements, such as dams, flumes, canals, and waterways.	50	20	50
49.12	<b>Electric Utility Nuclear Production Plant:</b> Includes assets used in the nuclear power production and electricity for sale and related land improvements. Does not include nuclear fuel assemblies.	20	15	20
49.121	<b>Electric Utility Nuclear Fuel Assemblies:</b> Includes initial core and replacement core nuclear fuel assemblies (i.e., the composite of fabricated nuclear fuel and container) when used in a boiling water, pressurized water, or high temperature gas reactor used in the production of electricity. Does not include nuclear fuel assemblies used in breeder reactors.	5	5	5
49.13	<b>Electric Utility Steam Production Plant:</b> Includes assets used in the steam power production of electricity for sale, combustion turbines operated in a combined cycle with a conventional steam unit and related land improvements. Also includes package boilers, electric generators and related assets such as electricity and steam distribution systems as used by a waste reduction and resource recovery plant if the steam or electricity is normally for sale to others.	28	20	28
49.14	<b>Electric Utility Transmission and Distribution Plant:</b> Includes assets used in the transmission and distribution of electricity for sale and related land improvements. Excludes initial clearing and grading land improvements as specified in Rev. Rul. 72-403, 1972-2 C.B. 102.	30	20	30
49.15	<b>Electric Utility Combustion Turbine Production Plant:</b> Includes assets used in the production of electricity for sale by the use of such prime movers as jet engines, combustion turbines, diesel engines, gasoline engines, and other internal combustion engines, their associated power turbines and/or generators, and related land improvements. Does not include combustion turbines operated in a combined cycle with a conventional steam unit.	20	15	20
49.21	<b>Gas Utility Distribution Facilities:</b> Includes gas water heaters and gas conversion equipment installed by utility on customers' premises on a rental basis.	35	20	35
49.221	<b>Gas Utility Manufactured Gas Production Plants:</b> Includes assets used in the manufacture of gas having chemical and/or physical properties which do not permit complete interchangeability with domestic natural gas. Does not include gas-producing systems and related systems used in waste reduction and resource recovery plants which are elsewhere classified.	30	20	30
49.222	<b>Gas Utility Substitute Natural Gas (SNG) Production Plant (naphtha or lighter hydrocarbon feedstocks):</b> Includes assets used in the catalytic conversion of feedstocks or naphtha or lighter hydrocarbons to a gaseous fuel which is completely interchangeable with domestic natural gas.	14	7	14
49.223	<b>Substitute Natural Gas—Coal Gasification:</b> Includes assets used in the manufacture and production of pipeline quality gas from coal using the basic Lurgi process with advanced methanation. Includes all process plant equipment and structures used in this coal gasification process and all utility assets such as cooling systems, water supply and treatment facilities, and assets used in the production and distribution of electricity and steam for use by the taxpayer in a gasification plant and attendant coal mining site processes but not for assets used in the production and distribution of electricity and steam for sale to others. Also includes all other related land improvements. Does not include assets used in the direct mining and treatment of coal prior to the gasification process itself.	18	10	18
49.23	<b>Natural Gas Production Plant</b>	14	7	14
49.24	<b>Gas Utility Trunk Pipelines and Related Storage Facilities:</b> Excluding initial clearing and grading land improvements as specified in Rev. Rul. 72-40.	22	15	22
49.25	<b>Liquefied Natural Gas Plant:</b> Includes assets used in the liquefaction, storage, and regasification of natural gas including loading and unloading connections, instrumentation equipment and controls, pumps, vaporizers and odorizers, tanks, and related land improvements. Also includes pipeline interconnections with gas transmission lines and distribution systems and marine terminal facilities.	22	15	22

## DEPRECIATION RANGES ADOPTED IN CC DOCKET NO. 98-137 – DECEMBER 17, 1999

RANGES FOR ACCOUNTS				
DEPRECIATION RATE CATEGORY	PROJECTION LIFE RANGE (YEARS)		FUTURE NET SALVAGE RANGE (PERCENT)	
	LOW	HIGH	LOW	HIGH
MOTOR VEHICLES	7.5	9.5	10	20
AIRCRAFT	7	10	30	60
SPECIAL PURPOSE VEHICLES	12	18	0	10
GARAGE WORK EQUIPMENT	12	18	0	10
OTHER WORK EQUIPMENT	12	18	0	10
FURNITURE	15	20	0	10
OFFICE SUPPORT EQUIPMENT	10	15	0	10
CO COMMUNICATIONS EQUIPMENT	7	10	-5	10
GENERAL PURPOSE COMPUTERS	6	8	0	5
DIGITAL SWITCHING	12	18	0	5
OPERATOR SYSTEMS	8	12	0	5
RADIO SYSTEMS	9	15	-5	5
CIRCUIT EQUIPMENT - DDS	7	11	-5	10
CIRCUIT EQUIPMENT - ANALOG	8	11	-5	0
CIRCUIT EQUIPMENT - DIGITAL	11	13	0	5
STATION APPARATUS	5	8	-5	5
LARGE PBX	5	8	-5	5
PUBLIC TELEPHONE	7	10	0	10
OTHER TERMINAL EQUIPMENT	5	8	-5	5
POLES	25	35	-75	-50
AERIAL CABLE - METALLIC	20	26	-35	-10
AERIAL CABLE – NON METALLIC	25	30	-25	-10
UNDERGROUND CABLE - METALLIC	25	30	-30	-5
UNDERGROUND CABLE – NON METALLIC	25	30	-20	-5
BURIED CABLE - METALLIC	20	26	-10	0
BURIED CABLE – NON METALLIC	25	30	-10	0
SUBMARINE CABLE	25	30	-5	0
INTRABLDG NETWORK CBL - METALLIC	20	25	-30	-5
INTRABLDG NETWORK CBL – NON METALLIC	25	30	-15	0
CONDUIT SYSTEMS	50	60	-10	0



DUFF & PHELPS

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Overview of Duff & Phelps' Appraisal  
For Estimating the Fair Market Value  
Of  
**AT&T Nevada's**  
**Wireline Telecommunication Network Assets**  
As of  
December 31, 2007

Prepared for  
**The Nevada Department of Taxation**

**Date: May 21, 2008**

The information contained in this document is private and confidential  
and should not be distributed to any other parties.

# Percent Good Life Comparison: D&P to AT&T Financial



	Average Remaining Life (ARL)	Annual Remaining Life Reduction	Financial Life (FL)
Switching	4.3	10.0%	10
Circuit Equipment	6.2	10.0%	9
Poles	10	10.0%	21
Fiber	7.4	5.0%	20
B&A Metallic	6.2	7.0%	15
Underground Metallic	4.6	7.0%	15
Conduit	25	5.0%	50

# **Level 3 Communications, LLC North American Property**

## **Market Value Appraisal Report as of January 1, 2012**

**AUS Consultants  
Depreciation & Valuation  
8555 West Forest Home Avenue, Suite 201  
Greenfield, WI 53228  
414-529-5755 / FAX 414-529-5750  
e-mail: [weinertj@auswest.net](mailto:weinertj@auswest.net)**

Symptoms suggesting the presence of functional obsolescence are excess operating cost, excess construction (excess capital cost), over-capacity, inadequacy, lack of utility, or similar conditions."<sup>5</sup>

In order to ascertain the service lives of the Company's various types of tangible property, plant and equipment, interviews were conducted with those of Level 3 personnel responsible for the development and upkeep of its network and service offerings. Through these interviews, and with our experience in evaluating the service lives of other communications companies, the following service lives were determined for the Company's property:

Type of Property	Physical/Normal Life years	Functional / Economic Life years
<b>Network Property</b>		
Switching Equipment		
Softswitches	5-7	3-5
IP Equipment (Frame, ATM, & IP)	5-7	3-5
Software	3	3
Racks, Cabinets, Laterals, & Risers	8-10	8
Circuit Switching	12	10
Transmission & Terminal Equipment		
Cross Connects	5	4
Multiplex (Optical, Electrical, Optical Amps & WDM)	5	3
MV Equipment	7	6
SAT Equipment	7	6
Fiber Optic Cable	15	12
Conduit	20	20
Buildings - Network	20	20
Buildings - Improvements	15	12
Buildings - Improvements - TWR	15	15
Leasehold Improvements - Network	12	12
<b>Non-Network Property</b>		
Vehicles	5 to 7	5 to 7
Construction Equipment	6 to 12	6 to 12
Furniture	12	12
Office Equipment	8	8
Computer Equipment	4	4
Software	3	3
Video Equipment	7	6

Physical/Normal and functional lives are described as follows:

<sup>5</sup> Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 67.





**Internal Revenue Bulletin: 2014-23**

**June 2, 2014**

**REG-150760-13**

***Notice of proposed rulemaking and notice of public hearing  
Definition of Real Estate Investment Trust Real Property***

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**AGENCY:**

Internal Revenue Service (IRS), Treasury.

**ACTION:**

Notice of proposed rulemaking and notice of public hearing.

**SUMMARY:**

This document contains proposed regulations that clarify the definition of real property for purposes of the real estate investment trust provisions of the Internal Revenue Code (Code). These proposed regulations provide guidance to real estate investment trusts and their shareholders. This document also provides notice of a public hearing on these proposed regulations.

**DATES:**

Written or electronic comments must be received by August 12, 2014. Requests to speak and outlines of topics to be discussed at the public hearing scheduled for September 18, 2014 must be received by August 12, 2014.

**ADDRESSES:**

Send submissions to: CC:PA:LPD:PR (REG-150760-13), room 5203, Internal Revenue Service, P.O. Box 7604, Ben Franklin Station, Washington, DC 20044. Submissions may be hand-delivered Monday through Friday between the hours of 8 a.m. and 4 p.m. to CC:PA:LPD:PR (REG-150760-13), Courier's Desk, Internal Revenue Service, 1111 Constitution Avenue, N.W., Washington, DC, or sent electronically, via the Federal eRulemaking Portal at [www.regulations.gov](http://www.regulations.gov) (IRS REG-150760-13). The public hearing will be held in the IRS Auditorium, Internal Revenue Building, 1111 Constitution Avenue, N.W., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:**

Concerning the proposed regulations, Andrea M. Hoffenson, (202) 317-7053, or Julianne Allen, (202) 317-6945; concerning submissions of comments, the hearing, and/or to be placed on the building access list to attend the hearing, Oluwafunmilayo (Funmi) Taylor, (202) 317-6901 (not toll-free numbers).

**SUPPLEMENTARY INFORMATION:**

**Background**

This document contains amendments to the Income Tax Regulations (26 CFR part 1) relating to real estate investment trusts (REITs). Section 856 of the Code defines a REIT by setting forth various requirements. One of the requirements for a taxpayer to qualify as a REIT is that at the close of each quarter of the taxable year at least 75 percent of the value of its total assets is represented by real estate assets, cash and cash items (including receivables), and Government securities. See section 856(c)(4). Section 856(c)(5)(B) defines *real estate assets* to include real property and interests in real property. Section 856(c)(5)(C) indicates that *real property* means "land or improvements thereon." Section 1.856-3(d) of the Income Tax Regulations, promulgated in 1962, defines real property for purposes of the regulations under sections 856 through 859 as—

## Exhibit 6

land or improvements thereon, such as buildings or other inherently permanent structures thereon (including items which are structural components of such buildings or structures). In addition, the term "real property" includes interests in real property. Local law definitions will not be controlling for purposes of determining the meaning of the term "real property" as used in section 856 and the regulations thereunder. The term includes, for example, the wiring in a building, plumbing systems, central heating, or central air-conditioning machinery, pipes or ducts, elevators or escalators installed in the building, or other items which are structural components of a building or other permanent structure. The term does not include assets accessory to the operation of a business, such as machinery, printing press, transportation equipment which is not a structural component of the building, office equipment, refrigerators, individual air-conditioning units, grocery counters, furnishings of a motel, hotel, or office building, etc., even though such items may be termed fixtures under local law.

### Section 1.856-3(d).

The IRS issued revenue rulings between 1969 and 1975 addressing whether certain assets qualify as real property for purposes of section 856. Specifically, the published rulings describe assets such as railroad properties,<sup>[2]</sup> mobile home units permanently installed in a planned community,<sup>[3]</sup> air rights over real property,<sup>[4]</sup> interests in mortgage loans secured by total energy systems,<sup>[5]</sup> and mortgage loans secured by microwave transmission property,<sup>[6]</sup> and the rulings address whether the assets qualify as either real property or interests in real property under section 856. Since these published rulings were issued, REITs have sought to invest in various types of assets that are not directly addressed by the regulations or the published rulings, and have asked for and received letter rulings from the IRS addressing certain of these assets. Because letter rulings are limited to their particular facts and may not be relied upon by taxpayers other than the taxpayer that received the ruling, see section 6110(k)(3), letter rulings are not a substitute for published guidance. The IRS and the Treasury Department recognize the need to provide additional published guidance on the definition of real property under sections 856 through 859. This document proposes regulations that define real property for purposes of sections 856 through 859 by providing a framework to analyze the types of assets in which REITs seek to invest. These proposed regulations provide neither explicit nor implicit guidance regarding whether various types of income are described in section 856(c)(3).<sup>[7]</sup>

### Explanation of Provisions

Consistent with section 856, the existing regulations, and published guidance interpreting those regulations, these proposed regulations define *real property* to include land, inherently permanent structures, and structural components. In determining whether an item is land, an inherently permanent structure, or a structural component, these proposed regulations first test whether the item is a *distinct asset*, which is the unit of property to which the definitions in these proposed regulations apply.

In addition, these proposed regulations identify certain types of intangible assets that are real property or interests in real property for purposes of sections 856 through 859. These proposed regulations include examples to illustrate the application of the principles of these proposed regulations to determine whether certain distinct assets are real property for purposes of sections 856 through 859.

### Distinct asset

These proposed regulations provide that each distinct asset is tested individually to determine whether the distinct asset is real or personal property. Items that are specifically listed in these proposed regulations as types of buildings and other inherently permanent structures are distinct assets. Assets and systems specifically listed in these proposed regulations as types of structural components also are treated as distinct assets. Other distinct assets are identified using the factors provided by these proposed regulations. All listed factors must be considered, and no one factor is determinative.

### Land

These proposed regulations define land to include not only a parcel of ground, but the air and water space directly above the parcel. Therefore, water space directly above the seabed is land, even though the water itself flows over the seabed and does not remain in place. Land includes crops and other natural products of land until the crops or other natural products are detached or removed from the land.

### Inherently permanent structures

Inherently permanent structures and their structural components are real property for purposes of sections 856 through 859. These proposed regulations clarify that inherently permanent structures are structures, including buildings, that have a passive function. Therefore, if a distinct asset has an active function, such as producing goods, the distinct asset is not an inherently permanent structure under these proposed regulations. In addition to serving a passive function, a distinct asset must be inherently permanent to be an inherently permanent structure. For this purpose, permanence may be established not only by the method by which the structure is affixed but also by the weight of the structure alone.

These proposed regulations supplement the definition of inherently permanent structure by providing a safe harbor list of distinct assets that are buildings, as well as a list of distinct assets that are other inherently permanent structures. If a distinct asset is on one of these lists, either as a building or as an inherently permanent structure, the distinct asset is real property for purposes of sections 856 through 859, and a facts and circumstances analysis is not necessary. If a distinct asset is not listed as either a building or an inherently permanent structure, these proposed regulations provide facts and circumstances that must be considered in determining whether the distinct asset is either a building or other inherently permanent structure. All listed factors must be considered, and no one factor is determinative.

One distinct asset that these proposed regulations list as an inherently permanent structure is an outdoor advertising display subject to an election to be treated as real property under section 1033(g)(3). Section 1033(g)(3) provides taxpayers with an election to treat certain outdoor advertising displays<sup>[8]</sup> as real property for purposes of Chapter 1 of the Code.

### Structural components

These proposed regulations define a structural component as a distinct asset that is a constituent part of and integrated into an inherently permanent structure, that serves the inherently permanent structure in its passive function, and does not produce or contribute to the production of income other than consideration for the use or occupancy of space. An entire system is analyzed as a single distinct asset and, therefore, as a single structural component, if the components of the system work together to serve the inherently permanent structure with a utility-like function, such as systems that provide a building with electricity, heat, or water.<sup>[9]</sup> For a structural component to be real property under sections 856 through 859, the taxpayer's interest in the structural component must be held by the taxpayer together with the taxpayer's interest in the inherently permanent structure to which the structural component is functionally related. Additionally, if a distinct asset that is a structural component is customized in connection with the provision of rentable space in an inherently permanent structure, the customization of that distinct asset does not cause it to fail to be a structural component.

Under these proposed regulations, an asset or system that is treated as a distinct asset is a structural component, and thus real property for

purposes of sections 856 through 859, if the asset or system is included on the safe harbor list of assets that are structural components. If an asset or system that is treated as a distinct asset is not specifically listed as a structural component, these proposed regulations provide a list of facts and circumstances that must be considered in determining whether the distinct asset or system qualifies as a structural component. No one factor is determinative.

These proposed regulations do not retain the phrase “assets accessory to the operation of a business,” which the existing regulations use to describe an asset with an active function that is not real property for purposes of the regulations under sections 856 through 859. The IRS and the Treasury Department believe that the phrase “assets accessory to the operation of a business” has created uncertainty because the existing regulations are unclear whether certain assets that are permanent structures or components thereof nevertheless fail to be real property because they are used in the operation of a business. Instead, these proposed regulations adopt an approach that considers whether the distinct asset in question either serves a passive function common to real property or serves the inherently permanent structure to which it is constituent in that structure’s passive function. On the other hand, if an asset has an active function, such as a distinct asset that produces, manufactures, or creates a product, then the asset is not real property unless the asset is a structural component that serves a utility-like function with respect to the inherently permanent structure of which it is a constituent part. Similarly, if an asset produces or contributes to the production of income other than consideration for the use or occupancy of space, then that asset is not real property. Thus, items that were assets accessory to the operation of a business under the existing regulations will continue to be excluded from the definition of real property for purposes of sections 856 through 859 either because they are not inherently permanent or because they serve an active function. These distinct assets include, for example, machinery; office, offshore drilling, testing, and other equipment; transportation equipment that is not a structural component of a building; printing presses; refrigerators; individual air-conditioning units; grocery counters; furnishings of a motel, hotel, or office building; antennae; waveguides; transmitting, receiving, and multiplex equipment; prewired modular racks; display racks and shelves; gas pumps; and hydraulic car lifts.

**Intangible assets that are real property**

These proposed regulations also provide that certain intangible assets are real property for purposes of sections 856 through 859. To be real property, the intangible asset must derive its value from tangible real property and be inseparable from the tangible real property from which the value is derived. Under § 1.856-2(d)(3) the assets of a REIT are its gross assets determined in accordance with generally accepted accounting principles (GAAP). Intangibles established under GAAP when a taxpayer acquires tangible real property may meet the definition of real property intangibles. A license or permit solely for the use, occupancy, or enjoyment of tangible real property may also be an interest in real property because it is in the nature of an interest in real property (similar to a lease or easement). If an intangible asset produces, or contributes to the production of, income other than consideration for the use or occupancy of space, then the asset is not real property or an interest in real property. Thus, for example, a permit allowing a taxpayer to engage in or operate a particular business is not an interest in real property.

**Other definitions of real property**

The terms “real property” and “personal property” appear in numerous Code provisions that have diverse contexts and varying legislative purposes. In some cases, certain types of assets are specifically designated as real property or as personal property by statute, while in other cases the statute is silent as to the meaning of those terms. Ordinarily, under basic principles of statutory construction, the use of the same term in multiple Code provisions would imply (absent specific statutory modifications) that Congress intended the same meaning to apply to that term for each of the provisions in which it appears. In the case of the terms “real property” and “personal property,” however, both the regulatory process and decades of litigation have led to different definitions of these terms, in part because taxpayers have advocated for broader or narrower definitions in different contexts.

For example, in the depreciation and (prior) investment tax credit contexts, a broad definition of personal property (and a narrow definition of real property) is ordinarily more favorable to taxpayers. A tangible asset may generally be depreciated faster if it is personal property than if it is considered real property, see section 168(c) and (g)(2)(C), and (prior) section 38 property primarily included tangible personal property and excluded a building and its structural components, see § 1.48-1(c) and (d). During decades of controversy, taxpayers sought to broaden the meaning of tangible personal property and to narrow the meanings of building and structural component in efforts to qualify for the investment tax credit or for faster depreciation. That litigation resulted in courts adopting a relatively broad definition of tangible personal property (and correspondingly narrow definition of real property) for depreciation and investment tax credit purposes.

Similarly, in the context of the Foreign Investment in Real Property Tax Act (FIRPTA), codified at section 897 of the Code, a narrower definition of real property is generally more favorable to taxpayers. Enacted in 1980, FIRPTA is intended to subject foreign investors to the same U.S. tax treatment on gains from the disposition of interests in U.S. real property that applies to U.S. investors. Accordingly, foreign investors can more easily avoid U.S. tax to the extent that the definition of real property is narrow for FIRPTA purposes. As in the depreciation and investment tax credit contexts, this situation has led to vigorous debate over the appropriate characterization of certain types of assets (such as intangible assets) that may have characteristics associated with real property but do not fall within the traditional categories of buildings and structural components. See, for example, Advance Notice of Proposed Rulemaking, Infrastructure Improvements Under Section 897, published in the **Federal Register** (REG-130342-08, 73 FR 64901) on October 31, 2008 (noting that taxpayers may be taking the position that a governmental permit to operate a toll bridge or toll road is not a United States real property interest for purposes of section 897 and stating that the IRS and the Treasury Department are of the view that such a permit may properly be characterized as a United States real property interest in certain circumstances). In the case of FIRPTA, however, Congress modified the definition of real property to include items of personal property that are associated with the use of real property. See section 897(c)(6)(B) (including as real property movable walls, furnishings, and other personal property associated with the use of the real property). Consequently, it is explicitly contemplated in section 897 that an item of property may be treated as a United States real property interest for FIRPTA purposes, notwithstanding that it is characterized as personal property for other purposes of the Code.

In the REIT context, taxpayers ordinarily benefit from a relatively broad definition of real property. Consequently, taxpayers have generally advocated in the REIT context for a more expansive definition of real property than applies in the depreciation and (prior) investment tax credit contexts. In drafting these regulations, the Treasury Department and the IRS have sought to balance the general principle that common terms used in different provisions should have common meanings with the particular policies underlying the REIT provisions. These proposed regulations define real property only for purposes of sections 856 through 859. The IRS and the Treasury Department request comments, however, on the extent to which the various meanings of real property that appear in the Treasury regulations should be reconciled, whether through modifications to these proposed regulations or through modifications to the regulations under other Code provisions.

**Proposed Effective Date**

The IRS and the Treasury Department view these proposed regulations as a clarification of the existing definition of real property and not as a modification that will cause a significant reclassification of property. As such, these proposed regulations are proposed to be effective for calendar quarters beginning after these proposed regulations are published as final regulations in the **Federal Register**. The IRS and the Treasury Department solicit comments regarding the proposed effective date.

**Special Analyses**

It has been determined that this notice of proposed rulemaking is not a significant regulatory action as defined in Executive Order 12866, as

supplemented by Executive Order 13653. Therefore, a regulatory assessment is not required. It also has been determined that section 553(b) of the Administrative Procedure Act (5 U.S.C. chapter 5) does not apply to these regulations, and because the regulations do not impose a collection of information on small entities, the Regulatory Flexibility Act (5 U.S.C. chapter 6) does not apply. Pursuant to section 7805(f) of the Code, this notice of proposed rulemaking has been submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on its impact on small business.

Comments and Public Hearing

Before these proposed regulations are adopted as final regulations, consideration will be given to any written (a signed original and eight (8) copies) or electronic comments that are submitted timely to the IRS. The IRS and the Treasury Department request comments on all aspects of these proposed rules. All comments will be available for public inspection and copying at <http://www.regulations.gov>, or upon request.

A public hearing has been scheduled for September 18, 2014, at 10:00 a.m., in the IRS Auditorium, Internal Revenue Building, 1111 Constitution Avenue, N.W., Washington, DC. Due to building security procedures, visitors must enter at the Constitution Avenue entrance. In addition, all visitors must present photo identification to enter the building. Because of access restrictions, visitors will not be admitted beyond the immediate entrance area more than 15 minutes before the hearing starts. For information about having your name placed on the building access list to attend the hearing, see the "FOR FURTHER INFORMATION CONTACT" section of this preamble.

The rules of 26 CFR 601.601(a)(3) apply to the hearing. Persons who wish to present oral comments at the hearing must submit written or electronic comments and an outline of the topics to be discussed and the time to be devoted to each topic (signed original and eight (8) copies) by August 12, 2014. A period of ten minutes will be allotted to each person for making comments. An agenda showing the scheduling of the speakers will be prepared after the deadline for receiving outlines has passed. Copies of the agenda will be available free of charge at the hearing.

Drafting Information

The principal authors of these regulations are Andrea M. Hoffenson and Julianne Allen, Office of Associate Chief Council (Financial Institutions and Products). However, other personnel from the IRS and the Treasury Department participated in their development.

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Proposed Amendments to the Regulations

Accordingly, 26 CFR part 1 is proposed to be amended as follows:

PART 1—INCOME TAXES

Paragraph 1. The authority citation for part 1 continues to read in part as follows:

Authority: 26 U.S.C. 7805 \* \* \*

Par. 2. In § 1.856-3, paragraph (d) is revised to read as follows:

§ 1.856-3 Definitions.

\* \* \* \* \*

(d) *Real property.* See § 1.856-10 for the definition of *real property*.

\* \* \* \* \*

Par. 3. Section 1.856-10 is added to read as follows:

§ 1.856-10 Definition of real property.

(a) *In general.* This section provides definitions for purposes of part II, subchapter M, chapter 1 of the Internal Revenue Code (Code). Paragraph (b) of this section defines real property, which includes land as defined under paragraph (c) of this section, and improvements to land as defined under paragraph (d) of this section. Improvements to land include inherently permanent structures as defined under paragraph (d)(2) of this section, and structural components of inherently permanent structures as defined under paragraph (d)(3) of this section. Paragraph (e) of this section provides rules for determining whether an item is a distinct asset for purposes of applying the definitions in paragraphs (b), (c), and (d) of this section. Paragraph (f) of this section identifies intangible assets that are real property or interests in real property. Paragraph (g) of this section provides examples illustrating the rules of paragraphs (b) through (f) of this section.

(b) *Real property.* The term *real property* means land and improvements to land. Local law definitions are not controlling for purposes of determining the meaning of the term *real property*.

(c) *Land.* Land includes water and air space superjacent to land and natural products and deposits that are unsevered from the land. Natural products and deposits, such as crops, water, ores, and minerals, cease to be real property when they are severed, extracted, or removed from the land. The storage of severed or extracted natural products or deposits, such as crops, water, ores, and minerals, in or upon real property does not cause the stored property to be recharacterized as real property.

(d) *Improvements to land—(1) In general.* The term *improvements to land* means inherently permanent structures and their structural components.

(2) *Inherently permanent structure—(i) In general.* The term *inherently permanent structure* means any permanently affixed building or other structure. Affixation may be to land or to another inherently permanent structure and may be by weight alone. If the affixation is reasonably expected to last indefinitely based on all the facts and circumstances, the affixation is considered permanent. A distinct asset that serves an active function, such as an item of machinery or equipment, is not a building or other inherently permanent structure.

(ii) *Building—(A) In general.* A building encloses a space within its walls and is covered by a roof.

(B) *Types of buildings.* Buildings include the following permanently affixed distinct assets: houses; apartments; hotels; factory and office buildings; warehouses; barns; enclosed garages; enclosed transportation stations and terminals; and stores.

(iii) *Other inherently permanent structures—(A) In general.* Other inherently permanent structures serve a passive function, such as to contain, support, shelter, cover, or protect, and do not serve an active function such as to manufacture, create, produce, convert, or transport.

(B) *Types of other inherently permanent structures.* Other inherently permanent structures include the following permanently affixed distinct

assets: microwave transmission, cell, broadcast, and electrical transmission towers; telephone poles; parking facilities; bridges; tunnels; roadbeds; railroad tracks; transmission lines; pipelines; fences; in-ground swimming pools; offshore drilling platforms; storage structures such as silos and oil and gas storage tanks; stationary wharves and docks; and outdoor advertising displays for which an election has been properly made under section 1033(g)(3).

(iv) *Facts and circumstances determination.* If a distinct asset (within the meaning of paragraph (e) of this section) does not serve an active function as described in paragraph (d)(2)(iii)(A) of this section, and is not otherwise listed in paragraph (d)(2)(ii)(B) or (d)(2)(iii)(B) of this section or in guidance published in the Internal Revenue Bulletin (see § 601.601(d)(2)(ii) of this chapter), the determination of whether that asset is an inherently permanent structure is based on all the facts and circumstances. In particular, the following factors must be taken into account:

- (A) The manner in which the distinct asset is affixed to real property;
- (B) Whether the distinct asset is designed to be removed or to remain in place indefinitely;
- (C) The damage that removal of the distinct asset would cause to the item itself or to the real property to which it is affixed;
- (D) Any circumstances that suggest the expected period of affixation is not indefinite (for example, a lease that requires or permits removal of the distinct asset upon the expiration of the lease); and
- (E) The time and expense required to move the distinct asset.

(3) *Structural components*—(i) *In general.* The term *structural component* means any distinct asset (within the meaning of paragraph (e) of this section) that is a constituent part of and integrated into an inherently permanent structure, serves the inherently permanent structure in its passive function, and, even if capable of producing income other than consideration for the use or occupancy of space, does not produce or contribute to the production of such income. If interconnected assets work together to serve an inherently permanent structure with a utility-like function (for example, systems that provide a building with electricity, heat, or water), the assets are analyzed together as one distinct asset that may be a structural component. Structural components are real property only if the interest held therein is included with an equivalent interest held by the taxpayer in the inherently permanent structure to which the structural component is functionally related. If a distinct asset is customized in connection with the rental of space in or on an inherently permanent structure to which the asset relates, the customization does not affect whether the distinct asset is a structural component.

(ii) *Types of structural components.* Structural components include the following distinct assets and systems: wiring; plumbing systems; central heating and air-conditioning systems; elevators or escalators; walls; floors; ceilings; permanent coverings of walls, floors, and ceilings; windows; doors; insulation; chimneys; fire suppression systems, such as sprinkler systems and fire alarms; fire escapes; central refrigeration systems; integrated security systems; and humidity control systems.

(iii) *Facts and circumstances determination.* If a distinct asset (within the meaning of paragraph (e) of this section) is not otherwise listed in paragraph (d)(3)(ii) of this section or in guidance published in the Internal Revenue Bulletin (see § 601.601(d)(2)(ii) of this chapter), the determination of whether the asset is a structural component is based on all the facts and circumstances. In particular, the following factors must be taken into account:

- (A) The manner, time, and expense of installing and removing the distinct asset;
- (B) Whether the distinct asset is designed to be moved;
- (C) The damage that removal of the distinct asset would cause to the item itself or to the inherently permanent structure to which it is affixed;
- (D) Whether the distinct asset serves a utility-like function with respect to the inherently permanent structure;
- (E) Whether the distinct asset serves the inherently permanent structure in its passive function;
- (F) Whether the distinct asset produces income from consideration for the use or occupancy of space in or upon the inherently permanent structure;
- (G) Whether the distinct asset is installed during construction of the inherently permanent structure;
- (H) Whether the distinct asset will remain if the tenant vacates the premises; and
- (I) Whether the owner of the real property is also the legal owner of the distinct asset.

(e) *Distinct asset*—(1) *In general.* A distinct asset is analyzed separately from any other assets to which the asset relates to determine if the asset is real property, whether as land, an inherently permanent structure, or a structural component of an inherently permanent structure.

(2) *Facts and circumstances.* The determination of whether a particular separately identifiable item of property is a distinct asset is based on all the facts and circumstances. In particular, the following factors must be taken into account:

- (i) Whether the item is customarily sold or acquired as a single unit rather than as a component part of a larger asset;
- (ii) Whether the item can be separated from a larger asset, and if so, the cost of separating the item from the larger asset;
- (iii) Whether the item is commonly viewed as serving a useful function independent of a larger asset of which it is a part; and
- (iv) Whether separating the item from a larger asset of which it is a part impairs the functionality of the larger asset.

(f) *Intangible assets*—(1) *In general.* If an intangible asset, including an intangible asset established under generally accepted accounting principles (GAAP) as a result of an acquisition of real property or an interest in real property, derives its value from real property or an interest in real property, is inseparable from that real property or interest in real property, and does not produce or contribute to the production of income other than consideration for the use or occupancy of space, then the intangible asset is real property or an interest in real property.

(2) *Licenses and permits.* A license, permit, or other similar right solely for the use, enjoyment, or occupation of land or an inherently permanent structure that is in the nature of a leasehold or easement generally is an interest in real property. A license or permit to engage in or operate a business generally is not real property or an interest in real property because it produces or contributes to the production of income other than consideration for the use or occupancy of space.

(g) *Examples.* The following examples demonstrate the rules of this section. *Examples 1* and *2* illustrate the definition of land as provided in paragraph (c) of this section. *Examples 3* through *10* illustrate the definition of improvements to land as provided in paragraph (d) of this section. Finally, *Examples 11* through *13* illustrate whether certain intangible assets are real property or interests in real property as provided in paragraph (f) of this section.



*Example 1. Natural products of land.* A is a real estate investment trust (REIT). REIT A owns land with perennial fruit-bearing plants. REIT A leases the fruit-bearing plants to a tenant on a long-term triple net lease basis and grants the tenant an easement on the land. The unsevered plants are natural products of the land and are land within the meaning of paragraph (c) of this section. Fruit from the plants is harvested annually. Upon severance from the land, the harvested fruit ceases to qualify as land. Storage of the harvested fruit upon or within real property does not cause the harvested fruit to be real property.

*Example 2. Water space superjacent to land.* REIT B leases a marina from a governmental entity. The marina is comprised of U-shaped boat slips and end ties. The U-shaped boat slips are spaces on the water that are surrounded by a dock on three sides. The end ties are spaces on the water at the end of a slip or on a long, straight dock. REIT B rents the boat slips and end ties to boat owners. The boat slips and end ties are water space superjacent to land that is land within the meaning of paragraph (c) of this section and, therefore, are real property.

*Example 3. Indoor sculpture.* (i) REIT C owns an office building and a large sculpture in the atrium of the building. The sculpture measures 30 feet tall by 18 feet wide and weighs five tons. The building was specifically designed to support the sculpture, which is permanently affixed to the building by supports embedded in the building's foundation. The sculpture was constructed within the building. Removal would be costly and time consuming and would destroy the sculpture. The sculpture is reasonably expected to remain in the building indefinitely. The sculpture does not manufacture, create, produce, convert, transport, or serve any similar active function.

(ii) When analyzed to determine whether it is an inherently permanent structure using the factors provided in paragraph (d)(2)(iv) of this section, the sculpture—

- (A) Is permanently affixed to the building by supports embedded in the building's foundation;
- (B) Is not designed to be removed and is designed to remain in place indefinitely;
- (C) Would be damaged if removed and would damage the building to which it is affixed;
- (D) Will remain affixed to the building after any tenant vacates the premises and will remain affixed to the building indefinitely; and
- (E) Would require significant time and expense to move.

(iii) The factors described in this paragraph (g) *Example 3* (ii)(A) through (ii)(E) all support the conclusion that the sculpture is an inherently permanent structure within the meaning of paragraph (d)(2) of this section and, therefore, is real property.

*Example 4. Bus shelters.* (i) REIT D owns 400 bus shelters, each of which consists of four posts, a roof, and panels enclosing two or three sides. REIT D enters into a long-term lease with a local transit authority for use of the bus shelters. Each bus shelter is prefabricated from steel and is bolted to the sidewalk. Bus shelters are disassembled and moved when bus routes change. Moving a bus shelter takes less than a day and does not significantly damage either the bus shelter or the real property to which it was affixed.

(ii) The bus shelters are not enclosed transportation stations or terminals and do not otherwise meet the definition of a building in paragraph (d)(2)(ii) of this section nor are they listed as types of other inherently permanent structures in paragraph (d)(2)(iii)(B) of this section.

(iii) When analyzed to determine whether they are inherently permanent structures using the factors provided in paragraph (d)(2)(iv) of this section, the bus shelters—

- (A) Are not permanently affixed to the land or an inherently permanent structure;
- (B) Are designed to be removed and are not designed to remain in place indefinitely;
- (C) Would not be damaged if removed and would not damage the sidewalks to which they are affixed;
- (D) Will not remain affixed after the local transit authority vacates the site and will not remain affixed indefinitely; and
- (E) Would not require significant time and expense to move.

(iv) The factors described in this paragraph (g) *Example 4* (iii)(A) through (iii)(E) all support the conclusion that the bus shelters are not inherently permanent structures within the meaning of paragraph (d)(2) of this section. Although the bus shelters serve a passive function of sheltering, the bus shelters are not permanently affixed, which means the bus shelters are not inherently permanent structures within the meaning of paragraph (d)(2) of this section and, therefore, are not real property.

*Example 5. Cold storage warehouse.* (i) REIT E owns a refrigerated warehouse (Cold Storage Warehouse). REIT E enters into long-term triple net leases with tenants. The tenants use the Cold Storage Warehouse to store perishable products. Certain components and utility systems within the Cold Storage Warehouse have been customized to accommodate the tenants' need for refrigerated storage space. For example, the Cold Storage Warehouse has customized freezer walls and a central refrigeration system. Freezer walls within the Cold Storage Warehouse are specifically designed to maintain the desired temperature within the warehouse. The freezer walls and central refrigeration system are each comprised of a series of interconnected assets that work together to serve a utility-like function within the Cold Storage Warehouse, were installed during construction of the building, and will remain in place when a tenant vacates the premises. The freezer walls and central refrigeration system were each designed to remain permanently in place.

(ii) Walls and central refrigeration systems are listed as structural components in paragraph (d)(3)(ii) of this section and, therefore, are real property. The customization of the freezer walls does not affect their qualification as structural components. Therefore, the freezer walls and central refrigeration system are structural components of REIT E's Cold Storage Warehouse.

*Example 6. Data center.* (i) REIT F owns a building that it leases to a tenant under a long-term triple net lease. Certain interior components and utility systems within the building have been customized to accommodate the particular requirements for housing computer servers. For example, to accommodate the computer servers, REIT F's building has been customized to provide a higher level of electrical power, central air-conditioning, telecommunications access, and redundancies built into the systems that provide these utilities than is generally available to tenants of a conventional office building. In addition, the space for computer servers in REIT F's building is constructed on raised flooring, which is necessary to accommodate the electrical, telecommunications, and central heating and air-conditioning infrastructure required for the servers. The following systems of REIT F's building have been customized to permit the building to house the servers: central heating and air-conditioning system, integrated security system, fire suppression system, humidity control system, electrical distribution and redundancy system (Electrical System), and telecommunication infrastructure system (each, a System). Each of these Systems is comprised of a series of interconnected assets that work together to serve a utility-like function within the building. The Systems were installed during construction of the building and will remain in place when the tenant vacates the premises. Each of the Systems was designed to remain permanently in place and was customized by enhancing the capacity of the System in connection with the rental of space within the building.

(ii) The central heating and air-conditioning system, integrated security system, fire suppression system, and humidity control system are listed as structural components in paragraph (d)(3)(ii) of this section and, therefore, are real property. The customization of these Systems does not affect the qualification of these Systems as structural components of REIT F's building within the meaning of paragraph (d)(3) of this section.

Exhibit 6

(iii) In addition to wiring, which is listed as a structural component in paragraph (d)(3)(ii) of this section and, therefore, is real property, the Electrical System and telecommunication infrastructure system include equipment used to ensure that the tenant is provided with uninterruptible, stable power and telecommunication services. When analyzed to determine whether they are structural components using the factors in paragraph (d)(3)(iii) of this section, the Electrical System and telecommunication infrastructure system—

(A) Are embedded within the walls and floors of the building and would be costly to remove;

(B) Are not designed to be moved, are designed specifically for the particular building of which they are a part, and are intended to remain permanently in place;

(C) Would not be significantly damaged upon removal and, although they would damage the walls and floors in which they are embedded, they would not significantly damage the building if they were removed;

(D) Serve a utility-like function with respect to the building;

(E) Serve the building in its passive functions of containing, sheltering, and protecting computer servers;

(F) Produce income as consideration for the use or occupancy of space within the building;

(G) Were installed during construction of the building;

(H) Will remain in place when the tenant vacates the premises; and

(I) Are owned by REIT F, which also owns the building.

(iv) The factors described in this paragraph (g) *Example 6* (iii)(A), (iii)(B), and (iii)(D) through (iii)(I) all support the conclusion that the Electrical System and telecommunication infrastructure system are structural components of REIT F's building within the meaning of paragraph (d)(3) of this section and, therefore, are real property. The factor described in this paragraph (g) *Example 6* (iii)(C) would support a conclusion that the Electrical System and telecommunication infrastructure system are not structural components. However this factor does not outweigh the factors supporting the conclusion that the Electric System and telecommunication infrastructure system are structural components.

*Example 7. Partitions.* (i) REIT G owns an office building that it leases to tenants under long-term triple net leases. Partitions are used to delineate space between tenants and within each tenant's space. The office building has two types of interior, non-load-bearing drywall partition systems: a conventional drywall partition system (Conventional Partition System) and a modular drywall partition system (Modular Partition System). Neither the Conventional Partition System nor the Modular Partition System was installed during construction of the office building. Conventional Partition Systems are comprised of fully integrated gypsum board partitions, studs, joint tape, and covering joint compound. Modular Partition Systems are comprised of assembled panels, studs, tracks, and exposed joints. Both the Conventional Partition System and the Modular Partition System reach from the floor to the ceiling.

(ii) Depending on the needs of a new tenant, the Conventional Partition System may remain in place when a tenant vacates the premises. The Conventional Partition System is designed and constructed to remain in areas not subject to reconfiguration or expansion. The Conventional Partition System can be removed only by demolition, and, once removed, neither the Conventional Partition System nor its components can be reused. Removal of the Conventional Partition System causes substantial damage to the Conventional Partition System itself but does not cause substantial damage to the building.

(iii) Modular Partition Systems are typically removed when a tenant vacates the premises. Modular Partition Systems are not designed or constructed to remain permanently in place. Modular Partition Systems are designed and constructed to be movable. Each Modular Partition System can be readily removed, remains in substantially the same condition as before, and can be reused. Removal of a Modular Partition System does not cause any substantial damage to the Modular Partition System itself or to the building. The Modular Partition System may be moved to accommodate the reconfigurations of the interior space within the office building for various tenants that occupy the building.

(iv) The Conventional Partition System is a wall, and walls are listed as structural components in paragraph (d)(3)(ii) of this section. The Conventional Partition System, therefore, is real property.

(v) When analyzed to determine whether it is a structural component using the factors provided in paragraph (d)(3)(iii) of this section, the Modular Partition System—

(A) Is installed and removed quickly and with little expense;

(B) Is not designed specifically for the particular building of which it is a part and is not intended to remain permanently in place;

(C) Is not damaged, and the building is not damaged, upon its removal;

(D) Does not serve a utility-like function with respect to the building;

(E) Serves the building in its passive functions of containing and protecting the tenants' assets;

(F) Produces income only as consideration for the use or occupancy of space within the building;

(G) Was not installed during construction of the building;

(H) Will not remain in place when a tenant vacates the premises; and

(I) Is owned by REIT G.

(vi) The factors described in this paragraph (g) *Example 7* (v)(A) through (v)(D), (v)(G), and (v)(H) all support the conclusion that the Modular Partition System is not a structural component of REIT G's building within the meaning of paragraph (d)(3) of this section and, therefore, is not real property. The factors described in this paragraph (g) *Example 7* (v)(E), (v)(F), and (v)(I) would support a conclusion that the Modular Partition System is a structural component. These factors, however, do not outweigh the factors supporting the conclusion that the Modular Partition System is not a structural component.

*Example 8. Solar energy site.* (i) REIT H owns a solar energy site, among the components of which are land, photovoltaic modules (PV Modules), mounts, and an exit wire. REIT H enters into a long-term triple net lease with a tenant for the solar energy site. The mounts (that is, the foundations and racks) support the PV Modules. The racks are affixed to the land through foundations made from poured concrete. The mounts will remain in place when the tenant vacates the solar energy site. The PV Modules convert solar photons into electric energy (electricity). The exit wire is buried underground, is connected to equipment that is in turn connected to the PV Modules, and transmits the electricity produced by the PV Modules to an electrical power grid, through which the electricity is distributed for sale to third parties.

(ii) REIT H's PV Modules, mounts, and exit wire are each separately identifiable items. Separation from a mount does not affect the ability of a PV Module to convert photons to electricity. Separation from the equipment to which it is attached does not affect the ability of the exit wire to

transmit electricity to the electrical power grid. The types of PV Modules and exit wire that REIT H owns are each customarily sold or acquired as single units. Removal of the PV Modules from the mounts to which they relate does not damage the function of the mounts as support structures and removal is not costly. The PV Modules are commonly viewed as serving the useful function of converting photons to electricity, independent of the mounts. Disconnecting the exit wire from the equipment to which it is attached does not damage the function of that equipment, and the disconnection is not costly. The PV Modules, mounts, and exit wire are each distinct assets within the meaning of paragraph (e) of this section.

- (iii) The land is real property as defined in paragraph (c) of this section.
- (iv) The mounts are designed and constructed to remain permanently in place, and they have a passive function of supporting the PV Modules. When analyzed to determine whether they are inherently permanent structures using the factors provided in paragraph (d)(2)(iv) of this section, the mounts—
  - (A) Are permanently affixed to the land through the concrete foundations or molded concrete anchors (which are part of the mounts);
  - (B) Are not designed to be removed and are designed to remain in place indefinitely;
  - (C) Would be damaged if removed;
  - (D) Will remain affixed to the land after the tenant vacates the premises and will remain affixed to the land indefinitely; and
  - (E) Would require significant time and expense to move.
- (v) The factors described in this paragraph (g) *Example 8* (iv)(A) through (iv)(E) all support the conclusion that the mounts are inherently permanent structures within the meaning of paragraph (d)(2) of this section and, therefore, are real property.
- (vi) The PV Modules convert solar photons into electricity that is transmitted through an electrical power grid for sale to third parties. The conversion is an active function. The PV Modules are items of machinery or equipment and are not inherently permanent structures within the meaning of paragraph (d)(2) of this section and, therefore, are not real property. The PV Modules do not serve the mounts in their passive function of providing support; instead, the PV Modules produce electricity for sale to third parties, which is income other than consideration for the use or occupancy of space. The PV Modules are not structural components of REIT H's mounts within the meaning of paragraph (d)(3) of this section and, therefore, are not real property.
- (vii) The exit wire is buried under the ground and transmits the electricity produced by the PV Modules to the electrical power grid. The exit wire was installed during construction of the solar energy site and is designed to remain permanently in place. The exit wire is inherently permanent and is a transmission line, which is listed as an inherently permanent structure in paragraph (d)(2)(iii)(B) of this section. Therefore, the exit wire is real property.

*Example 9. Solar-powered building.* (i) REIT I owns a solar energy site similar to that described in *Example 8*, except that REIT I's solar energy site assets (Solar Energy Site Assets) are mounted on land adjacent to an office building owned by REIT I. REIT I leases the office building and the solar energy site to a single tenant. Although the tenant occasionally transfers excess electricity produced by the Solar Energy Site Assets to a utility company, the Solar Energy Site Assets are designed and intended to produce electricity only to serve the office building. The Solar Energy Site Assets were designed and constructed specifically for the office building and are intended to remain permanently in place, but were not installed during construction of the office building. The Solar Energy Site Assets will not be removed if the tenant vacates the premises.

- (ii) With the exception of the occasional transfers of excess electricity to a utility company, the Solar Energy Site Assets serve the office building to which they are constituent, and, therefore, the Solar Energy Site Assets are analyzed to determine whether they are a structural component using the factors provided in paragraph (d)(3)(iii) of this section. The Solar Energy Site Assets—
  - (A) Are expensive and time consuming to install and remove;
  - (B) Are designed specifically for the particular office building for which they are a part and are intended to remain permanently in place;
  - (C) Will not cause damage to the office building if removed (but the mounts would be damaged upon removal);
  - (D) Serve a utility-like function with respect to the office building;
  - (E) Serve the office building in its passive functions of containing and protecting the tenant's assets;
  - (F) Produce income from consideration for the use or occupancy of space within the office building;
  - (G) Were installed after construction of the office building;
  - (H) Will remain in place when the tenant vacates the premises; and
  - (I) Are owned by REIT I (which is also the owner of the office building).
- (iii) The factors described in this paragraph (g) *Example 9* (ii)(A), (ii)(B), (ii)(C) (in part), (ii)(D) through (ii)(F), (ii)(H), and (ii)(I) all support the conclusion that the Solar Energy Site Assets are a structural component of REIT I's office building within the meaning of paragraph (d)(3) of this section and, therefore, are real property. The factors described in this paragraph (g) *Example 9* (ii)(C) (in part) and (ii)(G) would support a conclusion that the Solar Energy Site Assets are not a structural component, but these factors do not outweigh factors supporting the conclusion that the Solar Energy Site Assets are a structural component.
- (iv) The result in this *Example 9* would not change if, instead of the Solar Energy Site Assets, solar shingles were used as the roof of REIT I's office building. Solar shingles are roofing shingles like those commonly used for residential housing, except that they contain built-in PV modules. The solar shingle installation was specifically designed and constructed to serve only the needs of REIT I's office building, and the solar shingles were installed as a structural component to provide solar energy to REIT I's office building (although REIT I's tenant occasionally transfers excess electricity produced by the solar shingles to a utility company). The analysis of the application of the factors provided in paragraph (d)(3)(ii) of this section would be similar to the analysis of the application of the factors to the Solar Energy Site Assets in this paragraph (g) *Example 9* (ii) and (iii).

*Example 10. Pipeline transmission system.* (i) REIT J owns an oil pipeline transmission system that contains and transports oil from producers and distributors of the oil to other distributors and end users. REIT J enters into a long-term triple net lease with a tenant for the pipeline transmission system. The pipeline transmission system is comprised of underground pipelines, storage tanks, valves, vents, meters, and compressors. Although the pipeline transmission system serves an active function, transporting oil, a distinct asset within the system may nevertheless be an inherently permanent structure that does not itself perform an active function. Each of these distinct assets was installed during construction of the pipeline transmission system and will remain in place when a tenant vacates the pipeline transmission system. Each of these assets was designed to remain permanently in place.



(ii) The pipelines and storage tanks are inherently permanent and are listed as inherently permanent structures in paragraph (d)(2)(iii)(B) of this section. Therefore, the pipelines and storage tanks are real property.

(iii) Valves are placed at regular intervals along the pipelines to control oil flow and isolate sections of the pipelines in case there is need for a shut-down or maintenance of the pipelines. Vents equipped with vent valves are also installed in tanks and at regular intervals along the pipelines to relieve pressure in the tanks and pipelines. When analyzed to determine whether they are structural components using the factors set forth in paragraph (d)(3)(iii) of this section, the valves and vents—

(A) Are time consuming and expensive to install and remove from the tanks or pipelines;

(B) Are designed specifically for the particular tanks or pipelines for which they are a part and are intended to remain permanently in place;

(C) Will sustain damage and will damage the tanks or pipelines if removed;

(D) Do not serve a utility-like function with respect to the tanks or pipelines;

(E) Serve the tanks and pipelines in their passive function of containing tenant's oil;

(F) Produce income only from consideration for the use or occupancy of space within the tanks or pipelines;

(G) Were installed during construction of the tanks or pipelines;

(H) Will remain in place when a tenant vacates the premises; and

(I) Are owned by REIT J.

(iv) The factors described in this paragraph (g) *Example 10* (iii)(A) through (iii)(C) and (iii)(E) through (iii)(I) support the conclusion that the vents and valves are structural components of REIT J's tanks or pipelines within the meaning of paragraph (d)(3) of this section and, therefore, are real property. The factor described in this paragraph (g) *Example 10* (iii)(D) would support a conclusion that the vents and valves are not structural components, but this factor does not outweigh the factors that support the conclusion that the vents and valves are structural components.

(v) Meters are used to measure the oil passing into or out of the pipeline transmission system for purposes of determining the end users' consumption. Over long distances, pressure is lost due to friction in the pipeline transmission system. Compressors are required to add pressure to transport oil through the entirety of the pipeline transmission system. The meters and compressors do not serve the tanks or pipelines in their passive function of containing the tenant's oil, and are used in connection with the production of income from the sale and transportation of oil, rather than as consideration for the use or occupancy of space within the tanks or pipelines. The meters and compressors are not structural components within the meaning of paragraph (d)(3) of this section and, therefore, are not real property.

*Example 11. Goodwill.* REIT K acquires all of the stock of Corporation A, whose sole asset is an established hotel in a major metropolitan area. The hotel building is strategically located and is an historic structure viewed as a landmark. The hotel is well run by an independent contractor, but the manner in which the hotel is operated does not differ significantly from the manner in which other city hotels are operated. Under GAAP, the amount allocated to Corporation A's hotel is limited to its depreciated replacement cost, and the difference between the amount paid for the stock of Corporation A and the depreciated replacement cost of the hotel is treated as goodwill attributable to the acquired hotel. This goodwill derives its value and is inseparable from Corporation A's hotel. If REIT K's acquisition of Corporation A had been a taxable asset acquisition rather than a stock acquisition, the goodwill would have been included in the tax basis of the hotel for Federal income tax purposes, and would not have been separately amortizable. The goodwill is real property to REIT K when it acquires the stock of Corporation A.

*Example 12. Land use permit.* REIT L receives a special use permit from the government to place a cell tower on federal government land that abuts a federal highway. Governmental regulations provide that the permit is not a lease of the land, but is a permit to use the land for a cell tower. Under the permit, the government reserves the right to cancel the permit and compensate REIT L if the site is needed for a higher public purpose. REIT L leases space on the tower to various cell service providers. Each cell service provider installs its equipment on a designated space on REIT L's cell tower. The permit does not produce, or contribute to the production of, any income other than REIT L's receipt of payments from the cell service providers in consideration for their being allowed to use space on the tower. The permit is in the nature of a leasehold that allows REIT L to place a cell tower in a specific location on government land. Therefore, the permit is an interest in real property.

*Example 13. License to operate a business.* REIT M owns a building and receives a license from State to operate a casino in the building. The license applies only to REIT M's building and cannot be transferred to another location. REIT M's building is an inherently permanent structure under paragraph (d)(2)(i) of this section and, therefore, is real property. However, REIT M's license to operate a casino is not a right for the use, enjoyment, or occupation of REIT M's building, but is rather a license to engage in the business of operating a casino in the building. Therefore, the casino license is not real property.

(h) *Effective/applicability date.* The rules of this section apply for calendar

quarters beginning after the date of publication of the Treasury decision

adopting these rules as final regulations in the **Federal Register**.

John Dalrymple *Deputy Commissioner for Services and Enforcement.*

**Note**

(Filed by the Office of the Federal Register on May 9, 2014, 4:15 p.m., and published in the issue of the Federal Register for May 14, 2014, 79 F.R. 27508)

<sup>[2]</sup> Rev. Rul. 69-94 (1969-1 CB 189), (see § 601.601(d)(2)(ii)(b) of this chapter).

<sup>[3]</sup> Rev. Rul. 71-220 (1971-1 CB 210), (see § 601.601(d)(2)(ii)(b) of this chapter).

<sup>[4]</sup> Rev. Rul. 71-286 (1971-2 CB 263), (see § 601.601(d)(2)(ii)(b) of this chapter).

<sup>[5]</sup> Rev. Rul. 73-425 (1973-2 CB 222), (see § 601.601(d)(2)(ii)(b) of this chapter).

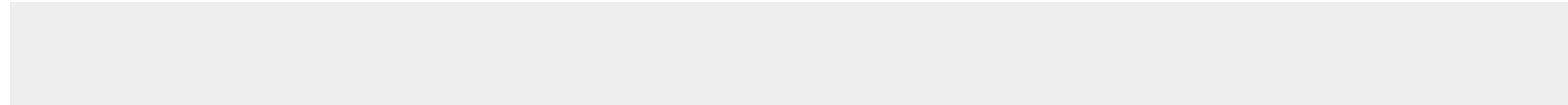
Exhibit 6

- [\[6\]](#) Rev. Rul. 75-424 (1975-2 CB 269), (see § 601.601(d)(2)(ii)(b) of this chapter).
- [\[7\]](#) One of the requirements for qualifying as a REIT is that a sufficiently large fraction of an entity's gross income be derived from certain specified types of income (which include "rents from real property" and "interest on obligations secured by mortgages on real property or on interests in real property"). Section 856(c)(3).
- [\[8\]](#) Section 1.1033(g)-1(b)(3) defines *outdoor advertising display* for purposes of the section 1033 election as "a rigidly assembled sign, display, or device that constitutes, or is used to display, a commercial or other advertisement to the public and is permanently affixed to the ground or permanently attached to a building or other inherently permanent structure."
- [\[9\]](#) See Rev. Rul. 73-425 (1973-2 CB 222), (see § 601.601(d)(2)(ii)(b) of this chapter) (holding that a total energy system that provides a building with electricity, steam or hot water, and refrigeration may be a structural component of that building). The IRS and the Treasury Department are considering guidance to address the treatment of any income earned when a system that provides energy to an inherently permanent structure held by the REIT also transfers excess energy to a utility company.

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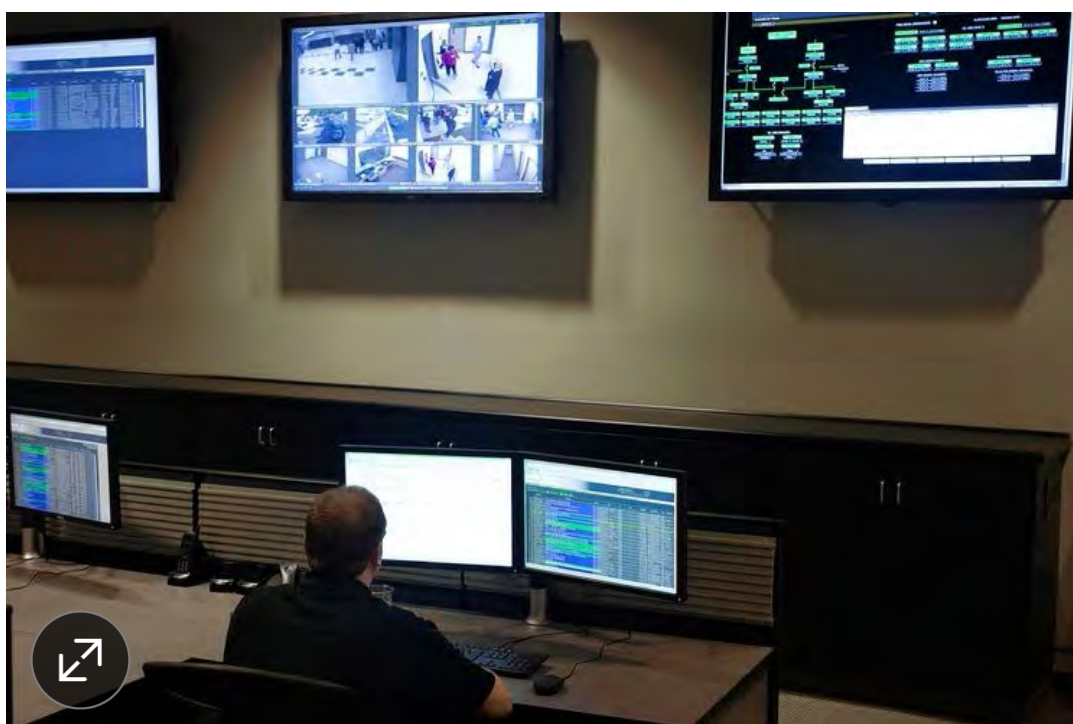
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BUSINESS

# Windstream Cleared to Cut Taxes by Forming a REIT

IRS Allows Firm to Classify Its Phone Lines as Real Estate



A Windstream data center in Arkansas. Windstream is reclassifying some fiber-optic lines as real estate. *ASSOCIATED PRESS*

By [THOMAS GRYTA](#) and [RYAN KNUTSON](#)

July 29, 2014

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COMMENTS

A little-known U.S. telecom company has hit upon a creative strategy that could help the industry shield billions of dollars from tax collectors.

In a development that caught Wall Street by surprise, Windstream Holdings Inc. was cleared by the Internal Revenue Service to reclassify most of its copper and fiber-optic lines as real estate, which could enable it to cut millions of dollars from its annual tax bill.

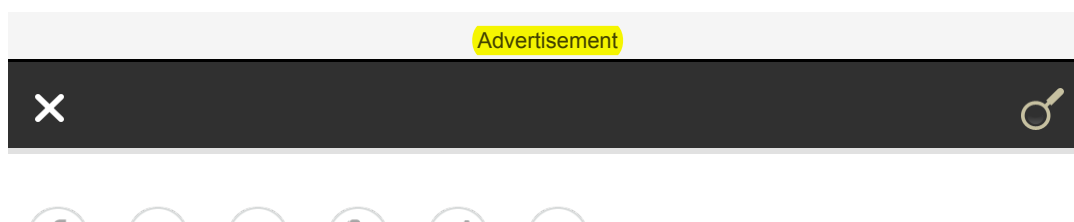
The arcane maneuver stretched the definition of real estate into new territory, giving American companies another means of minimizing their taxes at a time when corporate tax avoidance has sparked fierce debate in Washington.

While much of the recent controversy has involved attempts by multinationals such as pharmaceutical giant [Pfizer](#) Inc. to move their headquarters outside the U.S., the move shows that companies with overwhelmingly domestic operations are also aggressively seeking ways to cut back their tax bills.

Little Rock, Ark.-based Windstream, which had \$6 billion in revenue in 2013, said

the real estate maneuver will yield tax savings of more than \$100 million a year.

Investors immediately started betting that bigger telecom companies like CenturyLink Inc. and potentially even AT&T Inc. or Verizon Communications Inc. could take advantage of the opening as well.



Shares in Windstream peer [Frontier Communications](#) Corp. climbed 14%, CenturyLink gained 6% and AT&T rose 3% as bankers prepared to pitch similar strategies to other industry firms.

"There's a tremendous amount of this type of asset embedded in some very big companies around the country," said Kenny Gunderman, executive vice president of Stephens Inc., which advised Windstream on the transaction. "It's really billions and billions of dollars."

Verizon said it considers all of its options but wouldn't discuss the issue further. Frontier and AT&T declined to comment. CenturyLink said it has considered similar moves but hasn't made any decisions.

Windstream's shares rose 12%. The regional telephone, Internet and television provider said Tuesday it will spin off some of its network assets into a so-called real-estate investment trust. Congress established the structure half a century ago to make it easier for people to invest in office buildings and shopping malls. But its use has swelled over the years with the blessing of the IRS.

Now, the structure has been embraced by everyone from computer-data storage companies to billboard owners to private prisons seeking to lower their tax bills. In one closely watched situation, the IRS in June cleared document-storage and shredding company [Iron Mountain](#) Inc. to restructure as a REIT.

Asked about real estate, few people would intuitively come up with phone lines. But in legal terms, the fit is reasonably clear, said Steven Rosenthal, a senior fellow at the nonpartisan Tax Policy Center. Real estate basically involves income-earning

assets that can't be moved. Still, he said, the deal shows how the definition of real-estate investment trusts has expanded at the expense of the government's revenue collection from companies.

"In the short run we're eroding our corporate tax base," Mr. Rosenthal said. The move, he said, is "symptomatic of the steps that companies will take to avoid paying corporate-level taxes."

The legal but aggressive steps used by some companies to minimize their tax bills have sparked a backlash in Washington and some European capitals. Last year, the main debate was over steps taken by companies like [Apple Inc.](#) to shift taxable income overseas. More recently, the debate has turned to so-called inversions as companies like drugstore-chain [Walgreen Co.](#) weigh using mergers to relocate their headquarters to lower-tax jurisdictions abroad.

President [Barack Obama](#) jumped into the debate last week, calling such relocations "wrong" and urging legislation to halt them. The companies argue that they are following the law and have criticized the relatively high 35% U.S. corporate tax rate and the policy of levying taxes on income earned overseas.

Windstream's approach is to transfer a bundle of telecom assets to a new company and then rent those assets back so it can provide service to customers. Fiber-optic and copper lines will go into the REIT, but equipment used to transmit data won't. The cables are considered fixed assets, while the other equipment is seen as movable and doesn't qualify. The REIT will also include some Windstream buildings and poles.

The REIT will have just 25 employees and will pay out most of its income as a dividend to its shareholders. As long as it pays out at least 90% of its taxable income, it won't owe corporate tax.

Windstream CEO Jeff Gardner said the transaction isn't all about taxes. The move helps the company protect its dividend and reinvest in its network.

"We're still going to pay taxes," he said.

Analysts at UBS said the move will reduce Windstream's tax liability by half,

excluding the accelerated-depreciation benefit that companies had enjoyed under crisis-era stimulus measures.

REITs have exploded during the past four decades. In 1971, there were just 34, and they had a total market capitalization of about \$1.5 billion, according to the National Association of Real Estate Investment Trusts. As of June 30, there were 210 with a total market value of \$816 billion.

The majority own offices, shopping centers and apartment buildings, but an increasing number are being adapted to more creative uses. Cellphone-tower operator American Tower Corp. converted to a REIT in 2012 and has realized \$200 million in tax savings since then, according to RBC Capital Markets analyst Jonathan Atkin. Windstream is taking it a step farther.

"It stretches the definition of a REIT quite far," said Mark Stodden, senior telecom analyst with Moody's. "We don't see it as a REIT, we see it as a creative financing vehicle."

Following announcements by several companies that they were converting to REITs last year, the IRS formed a working group to review the definition of "real property," and for several months it stopped issuing new rulings. In a proposed rule published this spring, the agency clarified its definition of real assets to include land, permanent structures and structural components.

The IRS declined to comment.

It isn't clear whether Verizon or AT&T would pursue such a strategy because their businesses derive less overall revenue from those assets and because they're more complicated businesses. But Windstream has opened the door for other regional telecom companies such as CenturyLink and Frontier Communications, analysts said.

"We believe this means that every network stock we cover is roughly 20% undervalued at this point, as they should be able to largely avoid paying taxes going forward," Oppenheimer's Timothy Horan wrote in a research note.

Write to Thomas Gryta at [thomas.gryta@wsj.com](mailto:thomas.gryta@wsj.com) and Ryan Knutson at [ryan.knutson@wsj.com](mailto:ryan.knutson@wsj.com)

# Fiber Optic Cable





## Resource Center

### Premises

#### Fiber Selection and Standards Guide for Premises Networks

**Abstract:** There are several main types of optical fiber and the way each is designed, the characteristics they possess and the way these cause the fiber to operate determine the application to which a given fiber is most appropriate.

#### Sustaining the Cloud with a Faster, Greener, and Uptime-Optimized Data Center

**Abstract:** It is well recognized that backbone, metro and access networks need to deliver higher capacity in order to provide pipelines big enough for all this data to flow. But what's happening at the source and storage points for all this data? Both LANs and data centers are undergoing their own personal revolutions in terms of the ways they are built and operated, yet more specifically it is the data centers, with their high volume throughput of data, that are at the forefront of these changes and are therefore worthy of more detailed investigation.

#### Smart Cabling: Constructing a cost effective reliable and upgradeable cable infrastructure for your data centre/enterprise network

**Abstract:** As data centre and enterprise network facilities today are under unrelenting pressure to deliver higher capacity, highly reliable systems with sound technology robustness for the future, facilities continue to adopt the truly future proof technology of optical fibre. The reasons for converting to optical fibre away from legacy copper based cabling systems are numerous, but include high data rate scalability, enhanced power and cooling efficiencies, reduction in pathway and space utilisation, low latency and ease of testing and installation.

#### Bending the Truth - Get the straight story about Corning® ClearCurve® multimode fibers

**Abstract:** Understand what important design considerations were taken into account during our journey to bring this product to market and what questions you should be asking about your BIMMF choice.

#### 50 µm Optical Fiber Q&A

**Abstract:** 50 µm Fiber Q & A. Answers questions and concerns surrounding 50 µm fiber.

#### A Brief Premises Fiber Selection Guide

**Abstract:** This guide offers basic information on how to efficiently and effectively manage the fiber-purchasing decision process for premises networks.

#### Advantages of the Corning Optical Fiber Manufacturing Process

**Abstract:** Corning uses the outside vapor deposition process to manufacture optical fiber because of its process consistency, superior quality, and greater ability to scale to large volume.

#### Bit Error Rate (BER) Functionality Testing of Laser-Optimized Multimode Fibre: DMD-mask or minEMBc?

**Abstract:** The minEMBc (minimum calculated effective modal bandwidth) measurement method is used to certify the laser bandwidth of all Corning 50 micron InfiniCor multimode fibres. Corning has extensively studied minEMBc and other laser bandwidth techniques and has reported the superiority of the minEMBc laser bandwidth technique in several published articles and white papers.

#### Characterizing Bandwidth Length Uniformity in High Speed Data Communication Multimode Optical Fiber

**Abstract:** This paper provides an overview of the work done by Corning Optical Fiber to ensure that every length of multimode fiber shipped meets bandwidth specifications, and that multimode fiber networks will function as designed 100% of the time.

### Comparison of Mechanical Reliability Models for Optical Fibers

**Abstract:** The intended service life for optical fiber cables often is in excess of 25 years, and it is not practical to conduct experiments to directly assess reliability on such time scales. In order to quantify reliability of the system, it is necessary to perform accelerated experiments in the laboratory and extrapolate these results to less severe in-service conditions.

### Corning Incorporated's 40 Gb/s Demonstration at the 2008 Interop New York Exposition White Paper

**Abstract:** The need for speed. As bandwidth demand continues to increase, the need for higher speeds is also growing and the next generation standards are currently being developed.

### Evolution of 50/125 $\mu\text{m}$ Fiber Since the Publication of IEEE 802.3ae (Chinese)

**Abstract:** Since the publication of IEEE 802.3ae, the "10 Gigabit Ethernet (10 GbE) Standard", development work has continued on high-bandwidth 50 micron ( $\mu\text{m}$ ) multimode optical fibers for enterprise networks.

### Evolution of 50/125 $\mu\text{m}$ Fiber Since the Publication of IEEE 802.3ae (English)

**Abstract:** Since the publication of IEEE 802.3ae, the "10 Gigabit Ethernet (10 GbE) Standard", development work has continued on high-bandwidth 50 micron ( $\mu\text{m}$ ) multimode optical fibers for enterprise networks.

### Laser Bandwidth Measurements in Fiber Data Delivery for Corning® InfiniCor® Fibers

**Abstract:** In January 2006, Corning Optical Fiber announced that measured laser bandwidth values would be provided all Corning® InfiniCor® fibers shipped to strategic customers. Corning has led industry development of laser bandwidth metrics for multimode fiber, and since 1998 has been the only optical fiber manufacturer to specify both the standardized bandwidth measurement procedure and the pass/fail criteria for every laser-optimized™ multimode fiber shipped. With this announcement, Corning Optical Fiber extended their laser bandwidth leadership to become the only manufacturer providing factory measurements to customers in their Fiber Data Delivery (FDD).

### The Importance of minEMBc Laser Bandwidth Measured Multimode Fiber for High Performance Premises Networks

**Abstract:** This paper details why the most recently standardized laser bandwidth measurement method, minEMBc (calculated minimum effective modal bandwidth), is necessary for multi-Gigabit transmission over laser optimized multimode fibers.

[http://www.corning.com/opticalfiber/white\\_papers/premises.aspx](http://www.corning.com/opticalfiber/white_papers/premises.aspx)

# TECHNOLOGY FUTURES INC.


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## Our Customers

For over 30 years TFI has increased the effectiveness of our customers' operations with custom research, forecasts, and trend analyses in the telecom, high-tech, and other industries. Our customers have included over half the Fortune 100 technology companies, leading government agencies, top-tier universities, and start-ups. More than 90% of TFI's business comes from current customers or at the recommendation of these customers.

### Recent Customers Include:

- **TFI Forecasting Services:** Samsung, NSA, Boeing, Texas State Technical College Systems, and AT&T and others.
- **Depreciation & Valuation Services:** Major telecommunications carriers such as AT&T Mobility, Cincinnati Bell, Verizon, Qwest, AT&T, Bell Canada, Surewest, Windstream Communications, and Sprint/Nextel. Other clients include start-up companies and their investors. Other consulting firms include Thomson Reuters, Duff & Phelps, and the Telecommunications Technology Forecasting Group.
- **TFI Telecommunications Services:** AT&T, Verizon, Qwest, Bell Canada, SureWest, Sprint/Nextel and others.

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### Customer Recommendations

- *Technology Futures provides excellent insight into technology and market opportunities that span horizontally across a company's capabilities and that anticipate where the market and industry is heading. They are a valuable source of expert knowledge and strategic thinking.*  
--Large Computer Company
- *We have worked with Technology Futures for about 10 years now. They are always very professional and responsive to our requests. They've flown in to help us on short notice, and their advice has always been very insightful. In situations where a straightforward solution is not possible, they are innovative enough to suggest alternatives. They stick to the areas of their expertise and perform admirably.*  
--Large Manufacturing Company
- *Technology Futures has particularly strong experience in the commercial sector that they have been able to leverage for government applications. They have developed several invaluable tools for facilitation that help build organizational support and develop long-range plans. I have been very pleased with the quality of their technical work.*  
--Large Federal Government Agency
- *We employed Technology Futures to provide us with analytical support on a highly visible and highly sensitive evaluation. TFI provided us with high-quality support within our estimated time and cost objectives that was wholly responsive to our needs. They performed extremely well for us, and we will certainly hire them again when the opportunity arises.*  
--Federal Government Agency
- *Technology Futures' analytical skills are first class as are their cost control efforts. Their ability to put vendors and our employees together for high-level briefings proved invaluable to our organization. They kept us informed every step of the way until the day of delivery.*  
--Large Medical Facility
- *The TFI group was great!*  
--Large Aerospace Company
- *Technology Futures produced a recommended product, technology and market*



## **New TFI Report Recommends 20-25 Year Depreciation Life for New Fiber Optic Cable in the Local Exchange Network**

*Technology Futures, Inc. (TFI) announces a new recommended depreciation life of 20 to 25 years for newly-installed fiber optic cable in the local exchange network. TFI's prior recommendation was 15 to 20 years, which reflected the combined impacts of physical mortality, technological substitution, and access line losses due to competition. Documented in its new report "Depreciation Lives for New Fiber Optic Cable in the Local Exchange Network," this applies to the fiber cable that is going into the massive network upgrades such as AT&T's Project Lightspeed and Verizon's FiOS.*

Austin, TX (PRWEB) March 12, 2008 -- Technology Futures, Inc. (TFI) announces a new recommended depreciation life of 20 to 25 years for newly-installed fiber optic cable in the local exchange network. TFI's prior recommendation was 15 to 20 years, which reflected the combined impacts of physical mortality, technological substitution, and access line losses due to competition. Documented in its new report "Depreciation Lives for New Fiber Optic Cable in the Local Exchange Network," this applies to the fiber cable that is going into the massive network upgrades such as AT&T's Project Lightspeed and Verizon's FiOS.

As noted by report lead-author, Lawrence K. Vanston, Ph.D., "The incumbent local exchange carriers (ILECs) are making these investments with full knowledge that the market is competitive." He adds, "There is no obvious technological replacement for the full-spectrum fiber the ILECs are now placing."

The report also addresses other factors that might impact economic depreciation lives. One example is obsolescence from new network architectures and topologies. Another is the impact of new competitors such as broadband powerline and wireless broadband. The analysis concludes that, for general purposes, the 20 to 25 year recommended life is sufficient to account for these factors, at least for the time being.

The new recommendations apply only to local exchange fiber and only to networks being upgraded to very high speed broadband such as Project Lightspeed and FiOS. The TFI depreciation life recommendations have long been used for valuation, regulatory, planning, and financial reporting. The TFI depreciation studies are sponsored by the Telecommunications Technology Forecasting Group, comprised of AT&T, Bell Canada, Qwest, and Verizon.

For a table of contents and list of figures for "Depreciation Lives for New Fiber Optic Cable in the Local Exchange Network," please see below or visit [http://www.tfi.com/pubs/r/r02008\\_deplives.html](http://www.tfi.com/pubs/r/r02008_deplives.html).

We would be pleased to have this report reviewed by publications and/or be cited for articles examining the subject matter. We would also be glad to be interviewed and quoted for articles relating to the subject matter.

Lead-author Lawrence K. Vanston, Ph.D., is an internationally-recognized authority in the use of technology forecasting in the telecom industry. His research reports and forecasts are used and referenced extensively worldwide. His forecasting track-record (see sample attached or <http://www.tfi.com/about/trackrecord.html>) is legend. The September 21, 1998 issue of "The Wall Street Journal" featured an in-depth interview entitled "Consultant's Call: Lawrence Vanston Makes Some Pretty Bold Predictions for the Future of Telecommunications. He Has Been Right Before." The predictions therein have come true as well. His bio is



attached or see <http://www.tfi.com/staff/bios/vanstonl.html>.

Co-author Ray L. Hodges brings over 30 years of telecom expertise and experience to his work at TFI, including 25 years with GTE Telephone Operations. Mr. Hodges' views and the results of his research have been cited by such publications as "Telephony," "America's Network," "Lightwave," "Wired," "Inter@ctive Week," and "Wireless Systems Design." His bio is attached or see <http://www.tfi.com/staff/bios/hodges.html>.

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Press Contact: Please contact Ms. Carrie Vanston at (800) TEK-FUTR, (512) 258-8898, or by e-mail with questions about the report and/or to arrange an interview with Dr. Vanston or Mr. Hodges. They and the TFI staff are also always happy to comment on technology forecasting principles and technology and telecom trends.

Purchasing Contact: Please click here for purchasing information. Readers may also contact Debra Robison at (800) TEK-FUTR or (512) 258-8898, fax (512) 258-0087, or send email. The report is \$495.

Thank you for your attention.

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<http://www.tfi.com>

Depreciation Lives for New Fiber Optic Cable in the Local Exchange Network

Table of Contents:

- Introduction and Summary
- Physical Mortality
- Fiber Technology
- Architectural or Topological Obsolescence
- Competition
- Summary of Factors Impacting Existing and New Fiber

List of Figures

1. Age-Survivor Curve for Fiber Optic Cable
2. Broadband Households by Nominal Data Rate
- 3a. Illustrative Example of the Impact of a Technology Shift Coincident with 100 Mb/s Subscriber Forecast with 20% of the Fiber Replaced or Stranded



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# IMPACTS OF TECHNOLOGY CHANGE ON THE U.S. LONG DISTANCE NETWORK FOR PROPERTY VALUATION

---

*L. K. Vanston, Ph.D.*

*Technology Futures, Inc.*  
*July 2008*

**TECHNOLOGY  
FUTURES INC.**

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- ❖ The traditional long distance carriers (AT&T, Verizon, and Sprint) have begun a transition from a circuit-oriented architecture based on SONET, ATM, and circuit switches to a packet-oriented network based on IP MPLS technology. This transition will largely be complete by about 2015. The nontraditional carriers (Qwest and Level 3) started with IP technology, but they, as well, face continued requirements for modernization.
- ❖ Declining long distance minutes-of-use and prices for voice services impact the value of traditional circuit switches. The decline is caused by the transition of usage to wireless, cable telephony, and VoIP. (Some of this decline may be offset by growth in cellular long distance, as discussed later.) At the same time, prices have declined in response to less expensive bandwidth, more efficient switching technology, and the less expensive access afforded by wireless.

Table 1.1  
Summary of TFI Recommendations for Long-Distance Equipment Lives (Industry Average)

	Fiber Optic Transmission Equipment	Fiber Optic Cable	Circuit Switching Equipment	Packet Switching Equipment
Average Remaining Life (ARL)	2.9 - 6.2	6.4 - 9.9	2.6 - 3.8	2 - 3
Average Age	8.4	11.0	11.7	2.5
Average Service Life	11 - 14	17 - 21	14 - 18	4 - 6
Maximum Percent Good	26% - 38%	37% - 47%*	18% - 24%	under 50%

\*Range is 9% to 12% considering 25% maximum utilization

Note: Please see individual chapters for correct interpretation of these ranges.

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## Our Story

BICSI is a professional association supporting the advancement of the information and communications technology (ICT) community. ICT covers the spectrum of voice, data, electronic safety & security, project management and audio & video technologies. It encompasses the design, integration and installation of pathways, spaces, optical fiber- and copper-based distribution systems, wireless-based systems and infrastructure that supports the transportation of information and associated signaling between and among communications and information gathering devices.

BICSI provides information, education and knowledge assessment for individuals and companies in the ICT industry. BICSI serves more than 23,000 ICT professionals, including designers, installers and technicians. These individuals provide the fundamental infrastructure for telecommunications, audio/video, life safety and automation systems. Through courses, conferences, publications and professional registration programs, BICSI staff and volunteers assist ICT professionals in delivering critical products and services, and offer opportunities for continual improvement and enhanced professional stature.

Headquartered in Tampa, Florida, USA, BICSI membership spans nearly 100 countries.

For more information, contact BICSI at 800.242.7405 (USA and Canada toll-free) or +1 813.979.1991. You may also email [bicsi@bicsi.org](mailto:bicsi@bicsi.org).

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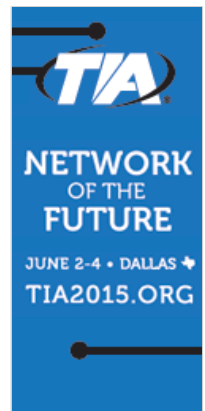
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# **BICSI US Western Regional Meeting**

# **An Inside Look at Outside Plant**



# BICSI Regional Meeting

Presented by  
John C. Adams  
RCDD/OSP Specialist  
Consultant  
BICSI® Master Instructor  
813-653-3207  
adamstelecomm@aol.com



# Agenda

- What is CO-OSP?
- A close look at the 758 standard
- Available Resources

# What is CO-OSP?

- **Customer Owned Outside Plant**
- **“Telecommunications infrastructure designed for installation exterior to buildings”**

**ANSI/TIA/EIA-758-A terminology**





# CO-OSP Standard

- **ANSI/TIA/EIA-758-A (2004)  
Customer-Owned Outside Plant  
Telecommunications Infrastructure  
Standard.**

**This standard replaces the  
ANSI/TIA/EIA-758 and 758-1  
documents. (1999)**



# Why do I have to know these standards?

You have to know these standards if:

- You do work on customer owned property
- You'd like to give your customer a system that will work regardless of the electronics they choose



# LET'S TAKE A LOOK INSIDE THE CO-OSP STANDARD

**ANSI/TIA/EIA-758-A**

**Customer-owned Outside Plant  
Telecommunications  
Infrastructure Standard**



# Discussion of the contents !

- Introduction and Scope
- Definitions, Acronyms, Weights, and Symbols
- Cabling Infrastructure
- Pathways and Spaces
- Cabling Hardware
- Annexes

# INTRODUCTION

- **“Telecommunications”** is defined in this standard as any transmission, emission, and reception of signs, signals, writings, images and sound, that is, information of any nature by cable, radio, optical or other electromagnetic system.



# INTRODUCTION

- Customer owned campus facilities are typically termed “outside plant”
- In this standard they’re called “Customer-owned OSP”





# INTRODUCTION

- **Mandatory criterion applies to performance and compatibility requirements**
- **Advisory criterion is “above minimum” goals.**



# INTRODUCTION

- The standard is a “living document” which means it can be revised or updated due to advances in construction techniques or technology.



# SCOPE-Applicability

- The standard specifies minimum requirements for CO-OSP
- Specifies cabling and the pathways and spaces to support it
- Useful life of OSP Pathways and Spaces is 40 years
- Useful life of OSP Cabling is 30 years

# SCOPE- Pathways and Spaces

- There are two basic types of cable pathway systems:

Underground and Aerial

# SCOPE

- Underground Pathways and Spaces

Direct Buried

Buried Duct/Conduit

Maintenance Holes, Handholes

Shared Spaces (utility tunnels)



# **SCOPE- Pathways and Spaces**

- **Aerial Pathways and Spaces**

**Poles**

**Messenger Wire or Strand**

**Anchoring Guy Wires**

**Anchors**





# **SCOPE- Customer Owned OSP Cabling**

- **Consists of recognized cable**
- **Conforming connecting hardware**
- **Protective Devices which....**  
**Can be located on the exterior or interior of a building or in an outdoor pedestal or cabinet**



# **CABLING INFRASTRUCTURE**

## **Recognized Cables**

- **50/125 optical fiber cable**
- **62.5/125 optical fiber cable**
- **Singlemode optical fiber cable**
- **100 ohm Twisted Pair Cable**
- **75 ohm Coaxial Cable**



# CABLING INFRASTRUCTURE

## Media Selection

- Choose the cable considering:
  - Characteristics of the applications
  - Distances
  - Future growth (population)
  - Customer preference
  - Required useful life
  - Flexibility with respect to supported services



# PATHWAYS AND SPACES

Pathways may be aerial,  
direct buried, or underground.

Underground or direct buried  
preferred over aerial

Underground is preferred over  
direct buried



# PATHWAYS AND SPACES

## Subsurface Pathways

- Design should consider:

Excavation -

Clearances and separations,  
Depth, Backfill, and Restoration,  
Trenching, Boring, Plowing.  
Street Crossings, Casings.



# PATHWAYS AND SPACES

## Conduit/Duct

- EB Type - Encasement in concrete
- DB Type - Direct Buried or encased
- Rigid Non-Metallic Sched. 40 or 80
- MPD- Multiple Plastic Duct
- Rigid Metallic Conduit
- IMC- Intermediate Metallic Conduit
- Fiberglass Duct - DB or encased
- Inner duct - PE or PVC

Note- The NEC says “metal” not  
“metallic”



# PATHWAYS AND SPACES

## Conduit/Duct

- Encase bends (non-metallic)
- 600 ft max. between pulling points
- No more then (2) 90's or a total of 180 degrees
- Drain slope should be is 1/8" per foot:

Exiting or entering a building or  
from the middle of a conduit span  
(each way)





# PATHWAYS AND SPACES

- Innerduct may be placed within a duct to facilitate initial and subsequent placement of multiple cables in a single duct.

**Note-** Innerduct can be plastic or fabric



# PATHWAYS AND SPACES

## Subsurface Considerations

- Duct plugs on ALL conduits
- Axial Movement- Bridge Crossing
- Tunnel Requirements

OSHA

Sheath properties and clearances



# PATHWAYS AND SPACES

## Aerial Construction

### Consider:

- Pole class, length, type, depth.
- All loading factors
- Grounding, clearances, separation
- Anchors/guys, riser protection
- Span lengths, slack spans, etc.
- Lashing, strand tension, sag.



# AERIAL CONSTRUCTION

- Poles commonly used in the telecommunications world are:  
Height- 30', 35', 40' or 45'  
Class- 9 classes – 1 thru 10  
(Class 8 not used)  
Most common - 3, 4, 5, 6, 7

This info is not in the standard



# FIBER OPTIC CABLING

## Recommendations

<u>Cable Type</u>	<u>Conduit or Duct</u>	<u>Tunnel</u>	<u>Direct Buried</u>	<u>Aerial</u>
Non-armored	R	R	S	R
Armored	S	S	R	S
Indoor/Outdoor	S	S	N	S
Drop	S	S	N	S

- R – Recommended, S – Suitable
- N – Not Recommended



# **CABLING**

## **Twisted Pair Specifications**

- **Filled cable is recommended (R) for aerial, direct buried, and UG.**
- **Air Core is suitable (S) for aerial and UG and not recommended (N) for direct buried.**

# **CABLING**

## **Coaxial Cable**

- **75 ohm cable semi-rigid**
- **Trunk, feeder, and distribution**
- **N type connecting hardware**
- **Meet requirements of SCTE**  
**Society of Cable Television**  
**Engineers (Doc. IPS-SP-100)**





# **CABLING**

## **Fiber Optic Cable**

- **Singlemode, multimode, or a combination of these types**
- **Non-conductive and conductive**
- **Armored and Non-Armored**
- **Indoor/Outdoor (50 foot rule)**



# **CABLING**

## **Fiber Optic Cable Types**

- **Generally non-armored is referred to as duct cable**
- **All dielectric have no metallic components**

# CABLING

## Fiber Optic Cable Types

### Armored cables

- Similar to duct cable in design
- Steel Armor under outer sheath
- Rodent resistant
- Added protection in rocky soil

# CABLING

## Fiber Optic Cable Types

### Aerial Cables

- Same construction as duct cables
- All dielectric recommended
- Not as susceptible to lightning (if they're all dielectric)



# CABLING

## Fiber Optic Cable Types

### Self Supporting

- Designed to be installed without the need for a pre-installed messenger.
- Can be installed quicker than duct type construction

# **CABLING**

## **Fiber Optic Cable Types**

**All dielectric, self supporting cable or  
ADSS cables**

**Duct cables that contain a layer of  
strength members that allows  
installation without a messenger  
but have length limits**



# CABLING

## Fiber Optic Cable Types

### Drop Cables:- Typically

- Small diameter
- Low fiber count
- Limited unsupported span lengths
- Used as a feed from a larger fiber to a single location



# CABLING HARDWARE

- Specifications on Closures
- **Buried Service Wire Closure shall maintain electricals/mechanicals for 40 years**
- Closures shall accommodate Straight, Branch, Butt , and Special Applications

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## Standard: TIA - TIA-758-B

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CUSTOMER-OWNED OUTSIDE PLANT TELECOMMUNICATIONS INFRASTRUCTURE STANDARD

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### Scope: Applicability

This Standard specifies minimum requirements for customer-owned OSP telecommunications facilities in a campus environment. This standard specifies the cabling, pathways and spaces to support the cabling.

Customer-owned OSP cabling extends between separated structures including the terminating connecting hardware at or within the structures. The OSP pathway includes the pathway through the point of entry into the building space. Customer-owned OSP pathways may include aerial, direct-buried, underground (e.g., duct), and tunnel distribution techniques. Customer-owned OSP pathways and spaces specified by this Standard are intended to have a useful life in excess of forty (40) years.

The OSP cabling specified by this Standard is intended to support a wide range of applications (e.g., voice, data, video, alarms, environmental control, security, audio, etc.) on commercial, industrial, institutional and residential sites. The customer-owned OSP cabling specified by this Standard is intended to have a useful life in excess of thirty (30) years.

This standard applies to all campuses, regardless of the size or population.

Customer-owned OSP cabling infrastructure

Pathways and spaces

Many types of pathways and spaces may be required to route cabling between campus buildings, structures, or

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outdoor telecommunications pedestal or cabinets. Figure 1 illustrates a variety of customer-owned OSP pathways and spaces. There are two basic types of cable pathway systems: underground and aerial (with exceptions for surface, above ground, conduit following the route of another above ground utility).

Underground pathways and spaces may be dedicated for cable placement (e.g., direct-buried cable; buried duct/conduit; maintenance holes; handholes; shared spaces such as a utility tunnel providing other services).

Aerial pathways and spaces may consist of poles; messenger wire; anchoring guy wires; splice closures and terminals. Self-supporting cables, which include a messenger wire, may also be used.

Customer-owned OSP cabling

Customer-owned OSP cabling consists of recognized cable terminated with conforming connecting hardware and protective devices, as required. Customer-owned OSP connecting hardware may be located on the exterior or interior of a building, or in an outdoor telecommunications pedestal or cabinet. Figure 2 illustrates a typical OSP cabling layout.

NOTES

- 1 - The customer-owned OSP link can have intermediate splices (e.g., reducing a copper twisted-pair feeder cable to distribution cables).
- 2 - Optical fiber cables may pass through a building entrance facility as a part of the cable route. For example figure 2 shows a cable from building "C" passing through the building "A" entrance splice point location to the destination at the outdoor telecommunications pedestal "D".

<b>Organization:</b>	Telecommunications Industry Association	<b>DOD Adopted:</b>	NO
<b>Document Number:</b>	TIA-758-B	<b>ANSI Approved:</b>	YES
<b>Publish Date:</b>	2012-03-27	<b>Most Recent Revision:</b>	YES
<b>Page Count:</b>	92	<b>Current Version:</b>	YES
<b>Available Languages:</b>	EN	<b>Status:</b>	Active

This Standard References

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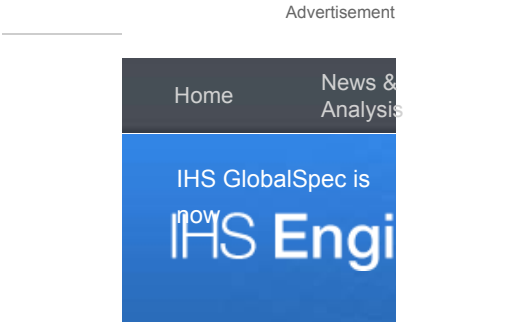
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# Rulings of the Tax Commissioner

Document Number:

06-84

Tax Type:

Retail Sales and Use Tax

Brief Description:

Leases of the fiber optic cable are real property

Topics:

Basis of Tax   Classification

Date Issued:

08/25/2006

August 25, 2006

Re: Request for Ruling: Retail Sales and Use Tax

Dear \*\*\*\*\*.

This will reply to your letter in which you request a ruling on the application of the retail sales and use tax to the lease of fiber optic cable by \*\*\*\*\* (the "Taxpayer"). I apologize for the delay in responding to your letter.

FACTS

The Taxpayer is in the business of providing network infrastructure services. Primarily, the Taxpayer leases fiber optic cable to enterprise and carrier customers, including banks and telecom providers.

The fiber optic cable is installed by third party contractors and remains the property of the Taxpayer. The customers have exclusive use rights but may not sell, share, swap, sublease, or otherwise assign the fiber optic cable to another party. In addition, the customer may not perform maintenance or repairs on the fiber optic cable.

The Taxpayer leases two kinds of fiber optic cable: dark fiber and lit fiber. Both types of fiber are installed underground. The Taxpayer contends that the lease of the fiber optic cable is a lease of "real property" and therefore is not subject to the retail sales and use tax.

RULING

In order to determine whether an article of tangible personal property becomes real property or remains tangible personal property upon installation, the Department relies upon the Virginia Supreme Court's ruling in *Transcontinental Gas Pipe Line Corporation v. Prince William County* 210 Va. 550 (1970), which states, in part:

Three general tests are applied to determine whether an item of personal property placed upon realty becomes itself realty. They are: (1) annexation of the property to realty, (2) adaptation to the use or purpose to which that part of the realty with which the property is connected is appropriated, and (3) the intention of the parties. The intention of the party making the annexation is the chief test to be

Expected Life Study, Page 82

considered . . . .

As provided in the above Virginia Supreme Court ruling, the Department places great emphasis on the intention of the parties making the annexation in determining whether the annexed property qualifies as tangible personal property or real property.

In this instance, the fiber optic cable is bundled with other fiber optic cable and the bundle of cable is contained in conduit. The conduit is buried 3 to 6 feet underground. The Taxpayer enters into agreements with customers for the lease of fiber optic cable. Should the customer terminate its lease, the fiber optic cable remains underground. Furthermore, it is my understanding that, for local tax purposes, the fiber optic cable is classified as realty. All of these factors support a finding that it is the Taxpayer's intention to make the fiber optic cable a permanent part of real property. Based on the facts presented, I find that the fiber optic cable does become real property once it is buried underground (*i.e.*, annexed to real property). Thus, the leases of the fiber optic cable are leases of real property and are not subject to the Virginia retail sales and use tax.

The Taxpayer should note that it is deemed the user and consumer of the fiber optic cable purchased for incorporation into real property. In accordance with *Va. Code* § 58.1-604, the Taxpayer is required to pay the tax on the purchase of the cable. If the tax is not collected on sales of the fiber optic cable by the vendor, then the Taxpayer must remit the proper amount of use tax to the Department.

This response is based on the facts provided as summarized above. Any change in the facts or the introduction of new facts may lead to a different result.

The *Code of Virginia* section cited, along with other reference documents, are available on-line at [www.tax.virginia.gov](http://www.tax.virginia.gov) in the Tax Policy Library section of the Department's website. If you have any questions about this response, you may contact \*\*\*\*\* in the Department's Office of Policy and Administration, Appeals and Rulings, at \*\*\*\*\*.

Sincerely,

Janie E. Bowen  
Tax Commissioner

AR/54099i

Last Updated 08/25/2014 16:46



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**September 10, 2007**  
**Pennsylvania Sales and Use Tax**  
**No. SUT-07-005**  
**Telecommunications / Leasing Fiber Optic Cable**

ISSUES

1. Is the monthly charge for leasing dark fiber optic cable subject to Pennsylvania Sales Tax or any telecommunications taxes?
2. Is the monthly charge for leasing lit fiber optic cable subject to Pennsylvania Sales Tax or any telecommunications taxes?

CONCLUSIONS

1. The monthly charge for leasing of dark fiber optic cable is not subject to Pennsylvania Sales Tax.
2. The monthly charge for leasing of lit fiber optic cable is taxable as a telecommunications service.

FACTS

Taxpayer is a provider of network infrastructure services with its primary activity being the leasing of fiber to both enterprise and carrier customers, that is, bank and telecommunications providers, respectively. Customers have exclusive use capacity rights but may not sublease or repair the fiber without express consent of Taxpayer. The origination, termination as well as the fiber itself, may or may not be in Pennsylvania.

With dark fiber, Taxpayer provides the fiber that connects to customers' locations but the customer is responsible for the equipment that is necessary to light the fiber optic cable for the transmission of communications. Taxpayer also offers services using its own equipment to light fiber optic cables. These services are invoiced as "Lit Fiber," "Wavechannel," "WDM Services," and/or "Metro Ethernet." In both instances, the fiber is part of a bundle of fiber and is contained in a conduit that is typically buried anywhere from three to six feet underground.

In both instances, Taxpayer has no way of knowing what, if anything, their customers transmit. They simply provide the optical connectivity between locations and are responsible for maintenance. The customer is billed a monthly flat fee for the right to use the cable.

Taxpayer asserts that the fiber falls within the definition of tangible personal property but becomes real property when it is combined with other fiber in an underground conduit, losing its identity to become an integral and inseparable part of the real property. Taxpayer also argues that the capacity leases are not a telecommunications service because it is the customer who initiates any communication (data or otherwise), the volume and type of

traffic, if any, is unknown to Taxpayer, and the amount billed is a monthly flat fee for the right to use.

#### DISCUSSION

With regard to dark cable, the Department agrees with Taxpayer's assertion that the cable becomes non-taxable real property when it is combined with other fiber in an underground conduit. However, the sale of lit cable is taxable as a telecommunications service. For Pennsylvania Sales Tax purposes, a taxable telecommunications service is defined as "any one-way transmission or any two-way, interactive transmission of sounds, signals or other intelligence converted to like form which effects or is intended to effect meaningful communications by electronic or electromagnetic means via wire, cable, satellite, light waves, microwaves, radio waves or other transmission media." 72 P.S. § 7201 (rr). Who initiates the transmission, the volume and type of traffic, and the method of billing are irrelevant for sales tax purposes. Note, Taxpayer may be entitled to the resale exemption on its purchase of the cable.



# Conduit Systems

This is the accessible text file for GAO report number GAO-12-687R entitled 'Planning and Flexibility Are Key to Effectively Deploying Broadband Conduit through Federal Highway Projects' which was released on June 27, 2012.

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GAO-687R:

United States Government Accountability Office:  
Washington, DC 20548:

June 27, 2012:

The Honorable Henry A. Waxman:  
Ranking Member:  
Committee on Energy and Commerce:  
House of Representatives:

The Honorable Anna G. Eshoo:  
Ranking Member:  
Subcommittee on Communications and Technology:  
Committee on Energy and Commerce:  
House of Representatives:

The Honorable Edward J. Markey:  
The Honorable Doris O. Matsui:  
House of Representatives:

Subject: Planning and Flexibility Are Key to Effectively Deploying  
Broadband Conduit through Federal Highway Projects:

Affordable access to broadband telecommunications is increasingly

viewed as vital to the country's economic growth as well as for improving state and local systems for traffic management, public safety, and educational goals.[Footnote 1] According to the Federal Communications Commission (FCC), the largest cost element for deploying broadband via fiber optic cable is the cost of placement, such as burying the fiber in the ground, rather than the cost of the fiber itself. Recent legislation introduced in both the U.S. Senate and House of Representatives would require the Secretary of Transportation to require states to install broadband conduit during construction for certain federally funded highway projects in compliance with standards developed by the Secretary, in coordination with FCC.[Footnote 2] Both the House and Senate bills would make conduit available to any requesting broadband service provider for a "charge not to exceed a cost-based rate." Both bills would affect only new construction or highway expansion projects that receive federal funding and would not, for example, affect projects limited to road resurfacing or general maintenance.

You requested that we examine proposed federal "dig once" policies that would require the deployment of broadband conduit in conjunction with federally funded highway construction projects as a way to decrease the costs of deploying fiber and eliminate the need for multiple excavations.[Footnote 3] This report presents information on (1) the advantages and disadvantages of dig once policies and (2) how the broadband deployment experiences of states and localities that have implemented dig once policies can inform the consideration of a federal dig once policy.

#### Scope and Methodology:

This information is based on our analysis of documents from and interviews with officials from FCC; the Federal Highway Administration (FHWA); state departments of transportation in California, Massachusetts, Michigan, Oregon, Utah, and Virginia; associations including the Telecommunications Industry Association, the National Association of Telecommunications Officers and Advisors, the National Association of Regulatory Utility Commissioners, the American Association of State Highway and Transportation Officials, the New America Foundation, the California Emerging Technology Fund, and the Massachusetts Broadband Institute; providers of broadband service and infrastructure including Google, Verizon, Inyo Networks, Sonic.net, Monkeybrains, Slic Network Solutions, and Jaguar Communications; and local government agencies in San Francisco, California; Santa Monica, California; Burbank, California; and Portland, Oregon. State departments of transportation and local government agencies were selected based on recommendations from U.S. Department of Transportation (DOT) and FCC officials and others we spoke with during the course of our work because of their experience with dig once or similar policies. Broadband service and infrastructure providers were selected to achieve a diversity of viewpoints, sizes, and company types. Our selection of stakeholders was judgmental and thus,

responses are not generalizable but provide key insights into the experiences of state and local governments and others with experience deploying broadband conduit and networks.

We conducted this performance audit from December 2011 through June 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

#### Results in Brief:

A federal dig once policy would likely have several advantages, including potentially decreasing the frequency of construction on major highways and the cost of installation, while accelerating access to and reliability of broadband networks. However, disadvantages--which could be exacerbated by a requirement to install conduit as part of certain federally funded highway construction--include the potential to install conduit that telecommunications companies might not use and to divert highway funding away from highway construction. DOT, FCC, and state DOT officials we spoke with supported the concept of a dig once policy, but suggested alternative approaches to a federal requirement to install conduit in all covered projects. For example, FCC officials expressed support for a federal requirement for evaluation of the feasibility and need for conduit during federal highway construction, and state and U.S. DOT officials expressed support for a federal role in facilitating discussion and best practice sharing among states implementing broadband deployment policies.

State and local broadband deployment experiences demonstrate the importance of planning and flexibility to effectively implement dig once policies. Officials from states and localities we spoke with have adopted various strategies--including establishing formal coordination processes between state DOTs and local utility companies--but none required installation of conduit as part of all roadway construction. These officials stated that planning and coordination with local officials is a critical step to address a number of considerations that should be taken into account during implementation--such as the location of access points and the appropriate number and size of conduits--to make the conduit installed more useful for telecommunications companies. In addition, officials from states and telecommunication companies stated that the flexibility to take local needs into account in implementing a dig once policy on a project-by-project basis is important and may help to address the potential disadvantages of a federal dig once policy.

#### Background:

FCC regulates interstate and international communications by radio, television, wire, satellite, and cable. According to FCC, communications infrastructure has played a critical role in increasing opportunities for American innovation, industry, job growth, and international competitiveness. As such, FCC works to promote competition, innovation, and investment in broadband services and facilities. Broadband access in the U.S. has thus far been driven largely by private investment and market innovations and has improved considerably in the last decade, but there are critical problems that slow the progress of availability, adoption, and utilization of broadband. Such problems include the high cost of deployment in some locations. To encourage further broadband deployment, FCC's National Broadband Plan recommends that Congress consider enacting dig once legislation applying to all future federally funded highway projects along rights-of-way and that the U.S. DOT make federal financing of highway, road, and bridge projects contingent on states and localities allowing joint deployment of conduits by qualified parties.[Footnote 4]

Federal funding for highways is provided to the states primarily through grant programs collectively known as the Federal-Aid Highway Program. In a joint federal-state partnership, FHWA, a division within the U.S. DOT, administers the Federal-Aid Highway Program and distributes most of the funding to the states through annual apportionments established by statutory formulas. Once apportioned, the funds are available for obligation for construction, reconstruction, and improvement of highways on eligible routes. About 1 million of the nation's 4 million miles of roads are eligible for federal aid--including the 161,000-mile National Highway System. The responsibility for selecting specific highway projects generally rests with state DOTs and local planning organizations, which have discretion in determining how to allocate available federal funds among various eligible projects.

Fiber optic cables provide extremely fast data transmission speeds and are commonly used for long haul transmissions, such as the Internet backbone and middle mile.[Footnote 5] Fiber optic technology converts electronic signals carrying data to light, sends the light through transparent glass or plastic fibers about the diameter of a human hair, and converts the light back to electronic form for delivery. These fibers are combined into cable of various size diameters, and these cables are then commonly buried inside an underground conduit where they are better protected from the elements or natural disasters. Depending on traffic demand, fiber optic technology may be deployed from the provider's facilities to a customer's home or business. In many instances, the part of the connection to the customer's premises, commonly called "the last mile," may be provided over coaxial cable, copper loop, or wireless technology, which may be more cost-effective than a total fiber connection. Industry documentation estimates that the expected useful life of fiber cables is between 20 and 25 years and that the expected useful life of underground conduit is between 25 and 50 years. Current dig once

policy proposals are focused on increasing middle-mile and backbone broadband infrastructure rather than last-mile fiber infrastructure to homes and businesses.

A Federal Dig Once Policy Has Several Potential Advantages and Disadvantages:

Federal and state officials and industry representatives we spoke with described the potential advantages and disadvantages associated with federal dig once policies (see figure 1). While the potential advantages apply to dig once policies in general, some potential disadvantages may be more or less applicable depending on the specific elements of a federal dig once policy.

Figure 1: Federal and State Officials' Views about Potential Advantages and Disadvantages of a Federal Dig Once Policy:

[Refer to PDF for image: illustration]

Advantages:

- \* Decrease frequency of construction on major highways;
- \* Decrease installation costs;
- \* Increase access to and reliability of broadband networks;
- \* Provide public and economic;
- \* Decrease time needed to deploy fiber.

Disadvantages:

- \* Result in unused conduit;
- \* Reduce funding available for highway projects;
- \* Increase administrative costs for state DOTs due to maintenance and leasing programs;
- \* Conflict with state and local broadband deployment policies.

Source: GAO.

[End of figure]

Potential Advantages:

\* Decrease frequency of construction on major highways. Combining broadband conduit installation with highway construction, rather than installing the conduit at a later date, might result in fewer construction-related disturbances on federal-aid highways. Decreasing the number of times a roadway is under construction should decrease construction-related traffic congestion and could potentially increase the life-span of roadways, as frequent construction can reduce the integrity of road materials.

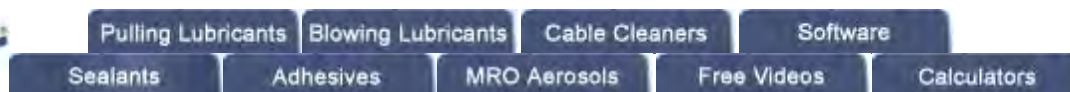
\* Decrease installation costs. The cost to install underground conduit for broadband deployment varies, but installation costs could decrease in some cases if conduit is installed during road construction

projects because of the ability to share those costs with others involved in the road project. One industry official stated that cost savings would depend on the type of work being completed for the principal highway project. If the highway project includes, for example, digging trenches for water mains or other facilities, then trenching equipment will be on site and available and the costs for that equipment would be shared among the broadband, water, and other portions of the project. Officials we spoke with noted that the amount of cost savings also depends on the type of terrain in which the conduit is installed and the installation method required. For example, for a 2011 broadband deployment project through portions of California and Nevada, the average contractor bid was \$2.18 per linear foot for "plowing"[Footnote 6] in dirt and \$10.86 per linear foot for "trenching"[Footnote 7] in dirt. For the same project, the average contractor bid for installing conduit by "boring"[Footnote 8] was about \$22 per linear foot in dirt but about \$108 per linear foot in areas with solid rock. Taking these factors into consideration, some of the state officials we spoke with reported that coordinating road work and underground conduit deployment in their states had resulted in cost savings. For instance, officials from one state DOT as well as an engineering assessment commissioned for the city of San Francisco estimate that when conduit and fiber installation is coordinated with a road or utility project, savings range from 25-33 percent and are greatest in densely populated areas where the complexity and cost of construction is highest. Similarly, Utah DOT, in comparing two rural broadband deployment projects, estimated cost savings of roughly 15.5 percent per mile when conduit and fiber were installed during a road project rather than being installed independent of a road project.

\* Increase access to and reliability of broadband networks. Officials stated that dig once policies could increase access to and reliability of broadband networks at a faster rate than current deployment efforts. For example, dig once policies could provide telecommunications companies with access to lower cost state-owned conduit in rural areas, thus encouraging them to build out their networks in those areas. Further, installing additional conduit in areas that already have broadband access could improve network reliability by providing redundancy in cases of damage by natural disasters, sabotage, or construction. Additionally, officials stated that dig once policies can provide an opportunity to replace aging or aerial infrastructure (such as underground copper infrastructure or fiber attached to telephone poles) with underground conduit, which is less susceptible to damage.

\* Provide public and economic benefits. Officials we spoke with stated that a dig once or similar policy could lead to various public and economic benefits. First, officials from some state DOTs, local governments, and industry organizations stated that a dig once policy could assist states and localities in developing intelligent transportation[Footnote 9] and public safety systems by making conduit available for state and local use. Officials in some localities also





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## INSTALLING COMMUNICATIONS CABLE IN CONDUIT

A White Paper Presented at the China Telecommunications Exposition

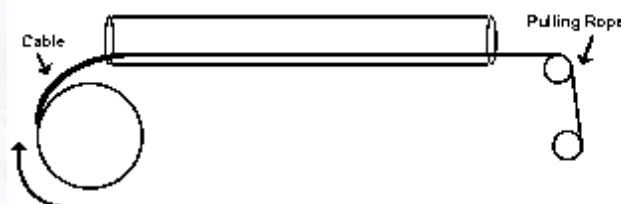
Both outside plant and in-building communications cable are often placed in conduit or duct. The conduit provides protection from both physical and environmental abuse. In underground installation, conduit protects cable from shifting rocks, aggressive rodents, and/or damage from hand shovels. Underground cable that is in conduit is easy to replace or upgrade. **The old cable can be pulled out of the conduit and the new pulled in without extensive and expensive digging.**

In metropolitan areas, multiple conduits are often grouped as "duct banks." Placing cable into empty ducts in these banks allows changes and growth of the city's cable infrastructure without major traffic disruptions from cutting and trenching of the street.

A large percent of underground fiber optic cable is installed in conduit. Because fiber optic cable is typically 10 - 20 mm in diameter, it has lower breaking strength and is more easily damaged than a 100 mm twisted pair copper cable. Conduit offers needed protection for this fiber optic cable.

### Cable Pulling

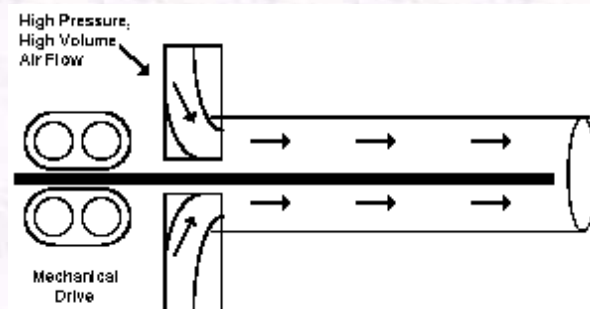
The most common method of installing cable into conduit is called "cable pulling" (Figure 1). Cable pulling is well known to cable installers throughout the world. First a line is threaded through the conduit; the line is attached to the cable; and then the line is used to drag the cable back through the conduit. For more than 50 years, millions of kilometers of electrical and communications cable have been installed using this basic method.



There is a "technology" of cable pulling. How can one determine the maximum distance that a cable can be pulled without damage? How can pulls be optimized to minimize splices and splicing expense? Proper answers to these questions mean better, more efficient cable installations, with less damaged cable and longer cable life.

### Cable Blowing

Another way of installing cable in conduit, especially suitable for light weight fiber optic cable, is laminar high speed air installation or "cable blowing" (Figure 2). Compressed air flow of greater than 10 cubic meters/min and an entry pressure of greater than 7 bar carries the cable through the conduit using the blowing air force pushing on the jacket.



### Cable Strength Limitations in Pulling

The first question in pulling any type of cable is how hard can you pull on it without damaging it; i.e., with how much force? The maximum recommended tension varies with both the size and type of cable. Fiber optic and coaxial cables typically have tensile strengths of 200 to 2500 Newtons. Large copper cables may have tensile strengths as high as 15 kN. The cable's manufacturer can provide the maximum installation tension for any particular cable. To properly pull the cable, this maximum allowable tension must be known and respected by the installer

### Frictional Force in Cable Pulling

Limits in the length of cable pull come from the need to keep the pulling force below the cable's maximum tension. Force is required to pull cable through conduit to overcome the cable's frictional resistance to movement.

Frictional resistance is measured with a "coefficient of friction". How can we define this "coefficient of friction" (COF)?



## Exhibit 15

Let's start with a simple physics class example . . . a wooden block (say, 5 kgs in weight) on a horizontal steel plate. Say it takes 2 kgs force (19.6 N) to pull (drag) the block across the plate. The coefficient of friction (wood on steel) is defined as the ratio of this "dragging force" (2 kgs) to the normal force (weight of 5 kg). In this case, the friction coefficient would be .4. Note that COF is a dimensionless number.

Experience tells us that if we replace the wooden block with a 5 kg rubber block, it will take a greater force to drag the rubber block (say 6 kgs force). The measured coefficient of friction (rubber/steel) would be 1.2. What's important to note in these examples is that there is no one coefficient of friction. The friction coefficient varies with the rubbing surfaces.

Replace the block with cable and the plate with conduit, and we have cable pulling . . . with a few complications. Neither the cable nor the conduit is flat. There may be more than one cable, which can result in complex rubbing surfaces. Pulls are not straight, so forces other than gravitational weight occur at conduit bends. Finally, pulling lubricants change and lower the friction coefficient.

### Cable Pulling Lubricants

[Polywater® Pulling Lubricants](#) play an important part in efficient pulls. Lubricants reduce the coefficient of friction, and thus the force required to pull the cable. In practice, this can mean a reduction in tension of 35 to 95 percent, depending on conduit route and cable jacket type. Not only must the lubricant be slippery, but it also must be compatible with the cable jacket with no long term adverse effects.

While oils and greases sound like fine cable pulling lubricants, they're not. These materials can swell and weaken the plastic jacket on the cable. Some of the wax and soap lubricants used on electrical cables are not suitable for communications cable, as they can stress crack polyethylene jacket. Modern Polywater® Cable Pulling Lubricants are water-based polymer materials, specially compounded for different types of cable and pulling environments. Polywater® Lubricants have been used for over two decades to install over 50,000,000 meters of cable.

American Polywater has extensively researched friction and lowering friction by using pulling lubricants. See the bibliography for references on this research.

### Tension Estimation in Cable Pulling

Once we have determined a valid coefficient of friction, cable pulling tension can be calculated using the cable pulling equations. The equations apply the physics from our block/table example to the unique character of cable pulling. This includes the non-gravitational forces in conduit bends.

Looking at a simplified form of the equations will clarify:

$$\text{Straight Conduit} \quad T_{\text{out}} = T_{\text{in}} + LW\mu$$

$$\text{Conduit Bend} \quad T_{\text{out}} = T_{\text{in}} e^{\mu\theta}$$

Where:

- $T_{\text{out}}$  = Tension Out
- $T_{\text{in}}$  = Tension In
- $L$  = Length of Straight Run
- $W$  = Weight of Cable (per length)
- $\mu$  = Coefficient of Friction
- $\theta$  = Angle of Bend
- $e$  = Natural Log Base

Note how significant changes in  $\mu$  (friction coefficient) can be, especially in conduit bends, where this friction variable is in the exponent. Inaccurate coefficients of friction lead to poor correlation of tension calculations with actual tensions. Unfortunately, it is in multi-bend pulls, where the tension and sidewall pressure are of most concern, that the use of an inaccurate coefficient of friction produces the greatest error.

### Pull-Planner™ Has Friction Database

We've seen that coefficient of friction varies with cable jacket, conduit type and lubricant type, and that it's necessary to use accurate coefficients to calculate meaningful pulling tensions.

American Polywater's laboratory has developed extensive friction data for different cable jacket and conduit types. This data is in an

internal data base in our [Pull-Planner™ Software](#).

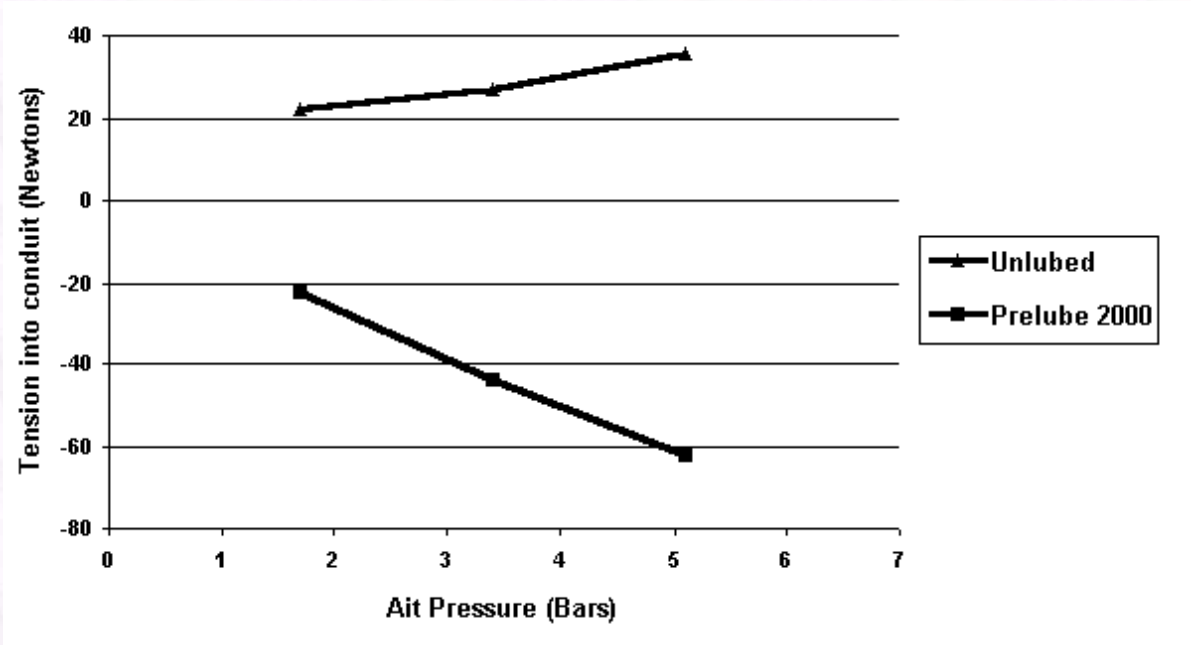
The Pull-Planner™ provides a convenient way to calculate cable pulling tensions on a personal computer. It enables "what if" scenarios with cable, conduit, pull length, COF, incoming tension, [jam ratios](#), and more. [Lubricant quantities](#) needed can be calculated, and calculations can be saved or printed out. The full version of the Pull-Planner™ is a Windows™ based program that can be run on 16 or 32 bit systems, and calculates in metric or English units.

Read our [Technical Talk](#) newsletter issue on this software, or click here to [ORDER](#) for only \$129.

Friction in Cable Blowing

Rather than lowering tension, reducing friction in cable blowing reduces the resistance to the combined mechanical and moving air pushing forces. This means the cable goes farther before it stops (longer installations) when all other variables are held constant.

Figure 3 below presents data from a lubricated and an unlubricated blowing experiment. The mechanical pusher was deactivated and the force required to push or hold back a cable was measured versus the incoming air pressure. The data indicates an unlubricated COF of .5 to .6 and a lubricated COF of .1 to .2 using our [Polywater® Prelube™ 2000](#). Cable can be blown 2.5 to 5 times farther with differences of this magnitude.



Lubricant Application in Pulling

There are a number of forms and packages for Polywater®Lubricants to support different types of application. [Liquid lubricants](#) work well in underground situations where the lubricant can be poured into the up-turned duct or cable feeder tube by using a funnel. For hand application, where the lubricant is lifted in a cupped hand and applied to the cable, [gel lubricants](#) work the best.

It is a good procedure to put some of the lubricant in the conduit just before the pull and to spread it with a sponge spreader attached to the winch line during the pull. This deposits lubricant in front of the cable. In larger conduits (>75 mm) with bigger cables, [Front End Packs™](#) (bags of lubricant) can be attached to the winch line and slit open as they enter the conduit in front of the cable. It is important to get the lubricant spread throughout the conduit to every point where the cable rubs.

[Lubricant pumps](#) are available from American Polywater. For additional information, see the references section.

Lubricant Application in Blowing

[Polywater® Prelube™ 2000](#) should be coated on the conduit walls before the cable is inserted in the conduit and cable blowing begins. This is best done with a sponge spreader which is blown through the duct with the lubricant in front of it. This is usually done right after the duct "proving" and cleaning process.

Unique Fiber Optic Placement Techniques

Several techniques can be used to place almost unlimited lengths of uninterrupted (unspliced) fiber optic cable. In "figure-eighting," the total length of cable is pulled through the first section of conduit. The excess is laid out neatly in a figure-eight pattern (counter twists). The figure-eight of cable is then flipped over and the pulling is begun again into the next section of conduit. This procedure can be done a number of times. Care should be taken to keep the cable clean and protected while it is laid out.

Bi-directional pulling also involves figure-eighting, but no excess is pulled through the first conduit segment. Instead, the second pull is made in the opposite direction after the cable is figure-eighted off the reel onto the ground. The reel effectively sits at the middle of the run.

Mid-assist pulling involves special intermediate pullers usually based on large diameter capstans or parallel caterpillar tracks. These devices actually pull on the cable and then feed it back into the next section of conduit with no tension. In a sense the installation becomes several shorter pulls with several simultaneously operating pullers.

For shorter light pulls, manual mid-assist (hand-over-hand) can be used with the help of [SureGrip™ Nonslip Gloves](#) to lower tension with a conscientious and properly coordinated field crew.

### Summary

Pulling or blowing cable is not difficult. Pullers must be careful not to put excess tension on the cable as it's installed. The special lubricants and equipment made for this task can make it straightforward and efficient, with no damage to the cable.

### References

1. [Polywater® J](#) Product Bulletin (Mandarin or English)
2. [Polywater® F](#) Product Bulletin (Mandarin or English)
3. [Pull-Planner™](#) Product Bulletin (English)
4. [Polywater® Plus Silicone™](#) Product Bulletin (Mandarin or English)
5. [Polywater® Prelube™ 2000](#) Product Bulletin & Application Instructions (English)
6. Polywater® [Lubricant Pump](#) Product Bulletin (English)
7. Instructions for the Use of Polywater® F for the Pulling of Fiber Optic Cable (English)
8. Instructions for the Use of Polywater® Lubricants for the Pulling of Innerducts into Conduits (English)
9. IEEE Paper, Friction Theory and Lubrication Techniques for improved Cable Pulling (English)
10. IEEE Paper, Coefficient of Friction Measurement between Cable and Conduit Surfaces Under Varying Normal Loads (English)
11. IEEE Paper, A New Cable Pulling Friction Measurement Method and Results (English)
12. IEEE Paper, Prediction and Minimization of Fiber Optic Cable Pulling Tensions (English)
13. IWCS Paper, [Fire Parameters and Combustion Properties of Cable Pulling Compound Residues](#) (English)
14. NFOEC Paper, Analysis and Measurement of Friction in High Speed Air Blowing Installation of Fiber Optic Cable (English)

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**New York State Department of Taxation and Finance**  
**Office of Tax Policy Analysis**  
**Technical Services Division**

TSB-A-05(20)S  
Sales Tax  
May 27, 2005

STATE OF NEW YORK  
COMMISSIONER OF TAXATION AND FINANCE

ADVISORY OPINION

PETITION NO. S020213A

On February 13, 2002, the Department of Taxation and Finance received a Petition for Advisory Opinion from Marcum & Kliegman, LLP, 130 Crossways Drive, Woodbury, New York, 11714.

The issues raised by Petitioner, Marcum & Kliegman, LLP, relate to sales of services and purchases of construction materials by a construction contractor, as follows:

1. Whether the replacement of existing underground pipes, mains or conduit or the installation of new pipes, mains or conduit as described below constitutes a capital improvement to real property for sales tax purposes.
2. Whether the purchase of road building materials including fill, sand, stone, and asphalt by a construction contractor performing road work for utility companies is subject to sales and use tax if a private property owner (i.e., an individual homeowner, developer, business, etc.) takes title to these materials upon completion of a project.
3. Whether the purchase of road building materials including fill, sand, stone, and asphalt by a construction contractor performing installation work for utility companies is subject to sales and use tax if a governmental entity takes title to these materials upon completion of a project.
4. Whether the purchase of conduit materials by a contractor for installation as infrastructure for the utility company's telecommunications network is subject to sales and use tax when the utility company obtains title to these materials after their installation.
5. Whether a contractor is required to obtain a certificate of capital improvement (Form ST-124) for each project performed for its customers or whether a signed contract is sufficient proof that the work being performed qualifies as a capital improvement.
6. Whether the contract between a contractor and its customers constitutes sufficient proof that the materials described above are used in a project for an exempt governmental entity, or whether additional documentation is required.

Petitioner submits the following facts as the basis for this Advisory Opinion.



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A construction contractor (hereinafter Contractor) is primarily engaged in the business of installing mains, pipes and conduits used to carry natural gas and communication cables, and, as an incident to such installations, replacing excavated sections of roadway and other property. Contractor's two largest customers are a natural gas utility company (hereinafter Gas Company) and a telecommunications company (hereinafter Phone Company). Contractor does not have contracts with entities exempt from sales tax pursuant to section 1116(a) of the Tax Law for these installations.

For Gas Company, Contractor is engaged to install underground natural gas mains and pipes under public roads and infrequently under an individual homeowner's property. Gas Company supplies all of the mains and pipes used. Gas Company does not charge Contractor for these pipes. Depending on the contract, Contractor will excavate the road, dig down approximately 4 feet and connect additional pipes to Gas Company's existing underground natural gas network. The extent of the work varies from small projects of less than 25 feet in length to large projects where the natural gas pipes are laid for several blocks.

Contractor then refills the 4 foot deep hole with clean fill, lays approximately 10 inches of stone and sand, and applies 2 to 4 inches of asphalt as a final cover. This process restores the road to a condition similar to that prior to the gas pipe installation. Contractor currently purchases the clean fill, sand, stone, and asphalt. Contractor pays sales tax on the purchase of these materials. The applicable governmental entity (town, county, city or state) gets title to most of the road building materials including the fill, sand, stone and asphalt. A private property owner may get title to a portion of the road building materials. For example, Contractor may run pipes 200 feet down a street and then run the pipe 10 feet up an individual's driveway. A portion of the road materials in this case would be installed on the individual's property.

Gas Company retains title to the mains and pipes after their installation. There is no construction contract between either Gas Company or Contractor and any exempt entity or organization or private property owner.

For Phone Company, Contractor is usually engaged to install conduit under public roads and on rare occasions under privately owned property. These conduits are usually 8 inches or 12 inches in diameter and are empty when installed. At a later date, Phone Company uses its own equipment to feed either copper cable, fiber optic cable or other lines through the empty underground conduit. At the time Contractor installs the conduit, Contractor does not know what type of cable will be fed through it.

Contractor uses a similar process as detailed for Gas Company installations to install the conduit used by Phone Company. As with the installations for Gas Company, Contractor excavates, installs the conduit, and restores the road or other real property to a similar condition as prior to the telephone conduit installation.

However, in the case of its contracts with Phone Company, Contractor is required to purchase the conduit that is used in the Phone Company projects from a third party. Phone

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Company obtains title to the conduit upon its installation. The applicable governmental entity gets title to all of the road building materials including the fill, sand, stone and asphalt used to restore its property. Private property owners take title to all materials used to restore their property to its original condition after a conduit is installed. Contractor currently pays sales tax on the conduit, fill, sand, stone and asphalt.

Neither Phone Company nor Contractor have a construction contract with any exempt entity or organization or private property owner.

For purposes of this Advisory Opinion, it is presumed that Contractor is making its installations for its customers, Gas Company or Phone Company, on easements in the case where such installations cross private property and on franchises where such installations cross public property.

### **Applicable law and regulations**

Section 1101(b) of the Tax Law provides, in part:

When used in this article for the purposes of the taxes imposed by subdivisions (a), (b), (c) and (d) of section eleven hundred five and by section eleven hundred ten, the following terms shall mean:

\* \* \*

(4) Retail sale. (i) A sale of tangible personal property to any person for any purpose, other than (A) for resale as such or as a physical, component part of tangible personal property, or (B) for use by that person in performing the services subject to tax under paragraphs (1), (2), (3), (5), (7) and (8) of subdivision (c) of section eleven hundred five where the property so sold becomes a physical component part of the property upon which the services are performed or where the property so sold is later actually transferred to the purchaser of the service in conjunction with the performance of the service subject to tax. Notwithstanding the preceding provisions of this subparagraph, a sale of any tangible personal property to a contractor, subcontractor or repairman for use or consumption in erecting structures or buildings, or building on, or otherwise adding to, altering, improving, maintaining, servicing or repairing real property, property or land, as the terms real property, property or land are defined in the real property tax law, is deemed to be a retail sale regardless of whether the tangible personal property is to be resold as such before it is so used or consumed . . .

\* \* \*

(9) Capital improvement. (i) An addition or alteration to real property which:

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(A) Substantially adds to the value of the real property, or, appreciably prolongs the useful life of the real property; and

(B) Becomes part of the real property or is permanently affixed to the real property so that removal would cause material damage to the property or article itself; and

(C) Is intended to become a permanent installation.

Section 1105 of the Tax Law provides, in part:

On and after June first, nineteen hundred seventy-one, there is hereby imposed and there shall be paid a tax . . . upon:

(a) The receipts from every retail sale of tangible personal property, except as otherwise provided in this article.

(b) (1) The receipts from every sale, other than sales for resale, of the following: (A) gas, electricity, refrigeration and steam, and gas, electric, refrigeration and steam service of whatever nature; (B) telephony and telegraphy and telephone and telegraph service of whatever nature except interstate and international telephony and telegraphy and telephone and telegraph service . . . (C) a telephone answering service; and (D) a prepaid telephone calling service.

\* \* \*

(c) The receipts from every sale, except for resale, of the following services:

\* \* \*

(3) Installing tangible personal property, excluding a mobile home, or maintaining, servicing or repairing tangible personal property, including a mobile home, not held for sale in the regular course of business, whether or not the services are performed directly or by means of coin-operated equipment or by any other means, and whether or not any tangible personal property is transferred in conjunction therewith, except:

\* \* \*

(iii) for installing property which, when installed, will constitute an addition or capital improvement to real property, property or land, as the terms real property, property or land are defined in the real property tax law as such term capital improvement is defined in paragraph nine of subdivision (b) of section eleven hundred one of this chapter. . . .

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\* \* \*

(5) Maintaining, servicing or repairing real property, property or land, as such terms are defined in the real property tax law, whether the services are performed in or outside of a building, as distinguished from adding to or improving such real property, property or land, by a capital improvement as such term capital improvement is defined in paragraph nine of subdivision (b) of section eleven hundred one of this article . . . .

Section 1115(a) of the Tax Law provides, in part:

Receipts from the following shall be exempt from the tax on retail sales imposed under subdivision (a) of section eleven hundred five and the compensating use tax imposed under section eleven hundred ten:

\* \* \*

(12-a) Tangible personal property for use or consumption directly and predominantly in the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale or internet access services for sale or any combination thereof. Such tangible personal property exempt under this subdivision shall include, but not be limited to, tangible personal property used or consumed to upgrade systems to allow for the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale or internet access services for sale or any combination thereof. As used in this paragraph, the term "telecommunications services" shall have the same meaning as defined in paragraph (g) of subdivision one of section one hundred eighty-six-e of this chapter.

\* \* \*

(15) Tangible personal property sold to a contractor, subcontractor or repairman for use in (i) erecting a structure or building (A) of an organization described in subdivision (a) of section eleven hundred sixteen . . . or (ii) adding to, altering or improving real property, property or land (A) of such an organization . . . as the terms real property, property or land are defined in the real property tax law; provided, however, no exemption shall exist under this paragraph unless such tangible personal property is to become an integral component part of such structure, building or real property.

(16) Tangible personal property sold to a contractor, subcontractor or repairman for use in maintaining, servicing or repairing real property, property or land (i) of an organization described in subdivision (a) of section eleven hundred sixteen . . . as the terms real property, property or land are defined in the real property tax law; provided, however, no exemption shall exist under this paragraph unless such tangible personal



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property is to become an integral component part of such structure, building or real property.

(17) Tangible personal property sold by a contractor, subcontractor or repairman to a person other than an organization described in subdivision (a) of section eleven hundred sixteen, for whom he is adding to, or improving real property, property or land by a capital improvement, or for whom he is about to do any of the foregoing, if such tangible personal property is to become an integral component part of such structure, building or real property; provided, however, that if such sale is made pursuant to a contract irrevocably entered into before September first, nineteen hundred sixty-nine, no exemption shall exist under this paragraph.

Section 1116(a) of the Tax Law provides, in part:

Except as otherwise provided in this section, any sale . . . to any of the following or any use or occupancy by any of the following shall not be subject to the sales and compensating use taxes imposed under this article:

(1) The state of New York, or any of its agencies, instrumentalities, public corporations (including a public corporation created pursuant to agreement or compact with another state or Canada) or political subdivisions where it is the purchaser, user or consumer. . . .

Section 1119(c) of the Tax Law provides:

A refund or credit equal to the amount of sales or compensating use tax imposed by this article and pursuant to the authority of article twenty-nine, and paid on the sale or use of tangible personal property, shall be allowed the purchaser where such property is later used by the purchaser in performing a service subject to tax under paragraph (1), (2), (3), (5), (7) or (8) of subdivision (c) of section eleven hundred five or under section eleven hundred ten and such property has become a physical component part of the property upon which the service is performed or has been transferred to the purchaser of the service in conjunction with the performance of the service subject to tax or if a contractor, subcontractor or repairman purchases tangible personal property and later makes a retail sale of such tangible personal property, the acquisition of which would not have been a sale at retail to him but for the second to last sentence of subparagraph (i) of paragraph (4) of subdivision (b) of section eleven hundred one. An application for the refund or credit provided for herein must be filed with the commissioner of taxation and finance within the time provided by subdivision (a) of section eleven hundred thirty-nine. Such application shall be in such form as the commissioner may prescribe. Where an application for credit has been filed, the applicant may immediately take such credit on the return which is due coincident with or immediately subsequent to the time that he files his application for credit. However, the taking of the credit on the return shall be deemed to be part of the application for credit. The procedure for granting or denying

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such applications for refund or credit and review of such determinations shall be as provided in subdivision (e) of section eleven hundred thirty-nine.

Section 1132 of the Tax Law provides, in part:

(a) (1) Every person required to collect the tax shall collect the tax from the customer when collecting the price, amusement charge or rent to which it applies. If the customer is given any sales slip, invoice, receipt or other statement or memorandum of the price, amusement charge or rent paid or payable, the tax shall be stated, charged and shown separately on the first of such documents given to him. The tax shall be paid to the person required to collect it as trustee for and on account of the state.

\* \* \*

(c)(1) For the purpose of the proper administration of this article and to prevent evasion of the tax hereby imposed, it shall be presumed that all receipts for property or services of any type mentioned in subdivisions (a), (b), (c) and (d) of section eleven hundred five . . . are subject to tax until the contrary is established, and the burden of proving that any receipt . . . is not taxable hereunder shall be upon the person required to collect tax or the customer. Except as provided in subdivision (h) or (k) of this section, unless (i) a vendor, not later than ninety days after delivery of the property or the rendition of the service, shall have taken from the purchaser a resale or exemption certificate in such form as the commissioner may prescribe, signed by the purchaser and setting forth the purchaser's name and address and, except as otherwise provided by regulation of the commissioner, the number of the purchaser's certificate of authority, together with such other information as the commissioner may require, to the effect that the property or service was purchased for resale or for some use by reason of which the sale is exempt from tax under the provisions of section eleven hundred fifteen, and, where such resale or exemption certificate requires the inclusion of the purchaser's certificate of authority number or other identification number required by regulations of the commissioner, that the purchaser's certificate of authority has not been suspended or revoked . . . or (ii) the purchaser, not later than ninety days after delivery of the property or the rendition of the service, furnishes to the vendor: any affidavit, statement or additional evidence, documentary or otherwise, which the commissioner may require demonstrating that the purchaser is an exempt organization described in section eleven hundred sixteen, the sale shall be deemed a taxable sale at retail. . . .

Section 1139(a) of the Tax Law provides, in part:

In the manner provided in this section the tax commission shall refund or credit any tax, penalty or interest erroneously, illegally or unconstitutionally collected or paid if application therefor shall be filed with the tax commission (i) in the case of tax paid by the applicant to a person required to collect tax, within three years after the date when the tax was payable by such person to the tax commission . . . .

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Section 526.6 of the Sales and Use Tax Regulations provides, in part:

Retail sale. (a) The term *retail sale* or *sale at retail* means the sale of tangible personal property to any person for any purpose, except as specifically excluded.

(b) Special rule--sales specifically included as retail sales.

(1) A sale of any tangible personal property to a contractor, subcontractor or repairman for use or consumption in erecting structures or buildings or adding to, altering, improving, maintaining, servicing or repairing real property, property or land, is deemed to be a retail sale, regardless of whether the tangible personal property is to be resold as such before it is used or consumed. . . .

Section 527.7(b) of the Sales and Use Tax Regulations provides, in part:

Imposition. (1) The tax is imposed on receipts from every sale of the services of maintaining, servicing or repairing real property, whether inside or outside of a building.

(4) The imposition of tax on services performed on real property depends on the end result of such service. If the end result of the services is the repair or maintenance of real property, such services are taxable. If the end result of the same service is a capital improvement to the real property, such services are not taxable.

Section 532.4 of the Sales and Use Tax Regulations provides, in part:

Presumption of taxability. (a) General. (1) It is presumed that all receipts for property or service of any type mentioned in subdivisions (a), (b), (c) and (d) of section 1105 of the Tax Law, all rents for occupancy of the type mentioned in subdivision (e) of said section, and all amusement charges of any type mentioned in subdivision (f) of said section, are subject to tax until the contrary is established.

\* \* \*

(b) Burden of proof. (1) The burden of proving that any receipt . . . is not taxable shall be upon the person required to collect the tax and the customer.

(2) A vendor who in good faith accepts from a purchaser a properly completed exemption certificate or, as authorized by the Department, other documentation evidencing exemption from tax not later than 90 days after delivery of the property or the rendition of the service is relieved of liability for failure to collect the sales tax with respect to that transaction. The timely receipt of the certificate or documentation itself will satisfy the vendor's burden of proving the nontaxability of the transaction and relieve the vendor of responsibility for collecting tax from the customer.

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(i) A certificate or other document is "accepted in good faith" when a vendor has no knowledge that the exemption certificate or other document issued by the purchaser is false or is fraudulently presented. If reasonable ordinary due care is exercised, knowledge will not be imputed to the seller required to collect the tax.

\* \* \*

(5) A vendor is not relieved of the burden of proof when it failed to obtain an exemption certificate or accepted an improper certificate, or had knowledge that the exemption certificate issued by the purchaser was false or fraudulently presented.

Section 541.1(b) of the Sales and Use Tax Regulations provides:

The principal distinguishing feature of a sale to a contractor, as compared to a sale to other vendors who purchase tangible personal property for resale, is that the sale of tangible personal property to a contractor for use or consumption in construction is a retail sale and subject to sales and use tax, regardless of whether tangible personal property is to be resold as such or incorporated into real property as a capital improvement or repair. Whenever a contractor uses materials, on which the contractor has paid sales tax, in a repair or maintenance contract (except interior cleaning and maintenance contracts of 30 days or more) subject to the sales tax on services under section 1105(c) of the Tax Law, the contractor may be entitled to a refund or credit of the portion of the tax he paid attributable to the materials transferred to the customer.

Section 541.5 of the Sales and Use Tax Regulations provides, in part:

Contracts with customers other than exempt organizations.

(a) The term *customers* in this classification includes, but is not limited to:

- (1) residential customers; and
- (2) business customers.

(b) Capital improvements contracts.

(1) Purchases. All purchases of tangible personal property (excluding qualifying production machinery and equipment exempt under section 1115(a)(12) of the Tax Law) which are incorporated into and become part of the realty or are used or consumed in performing the contract are subject to tax at the time of purchase by the contractor or any other purchaser. A certificate of capital improvement may not be validly given by any person or accepted by a supplier to exempt the purchase of these materials.

(2) Labor and material charges. All charges by a contractor to the customer for adding to or improving real property by a capital improvement are not subject to tax

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provided the customer supplies the contractor with a properly completed certificate of capital improvement.

\* \* \*

(4) Documents; capital improvement contracts.

(i) When a properly completed certificate of capital improvement has been furnished to the contractor, the burden of proving the job or transaction is not taxable and the liability for the tax rests solely upon the customer.

(a) The prime contractor should obtain a certificate of capital improvement from the customer and retain it as part of his records. Copies of such certificate must be furnished to all subcontractors on the job and retained as part of their records.

(b) A certificate of capital improvement may not be issued by a contractor, subcontractor or any other person to a supplier on the purchase of tangible personal property.

(ii) Where a contractor does not receive a capital improvement certificate from a customer, the contract or other records of the transaction will prevail. In such case:

(a) where the contractor does not receive a capital improvement certificate, collects tax on the full invoice price and the job is a capital improvement to real property, the contractor is liable for the tax on the cost of materials incorporated into the job, plus the tax collected from the customer. The customer is entitled to a refund of the tax paid to the contractor; or

(b) where the contractor does not receive a capital improvement certificate, collects no tax on the charges billed to the customer and the job is a capital improvement to real property, the contractor is liable for the tax on the cost of materials incorporated into the job performed.

(iii) If a contract includes the sale of tangible personal property which remains tangible personal property after installation, the contractor must collect the appropriate New York State and local taxes from the customer on the selling price, including any charge for installation, of the tangible personal property unless a properly completed exemption certificate is issued by the customer. The contractor may apply for a credit or refund of taxes he has paid on purchases of the tangible personal property that remain tangible personal property after installation.

Example 1: A contractor sells a building he has constructed and, as a part of the sale agreement, installs free standing water fountains which remain tangible personal property when installed. The contractor's billing to his customer must

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separately state all charges for tangible personal property included in the sales agreement. The New York State and applicable local tax rate must be collected on the total charges for the water fountains including any installation charges. In this instance, the contractor may purchase the water fountains tax-free using a contractor exempt purchase certificate. If he pays the tax to his supplier, he is entitled to a refund or credit of the tax paid on the purchase of the water fountains.

## Opinion

Contractor is primarily engaged in the business of installing gas mains and pipes used to carry natural gas, and conduit used to house telecommunications cables, and, as an incident to such installations, excavating and replacing sections of roadway and other property. Contractor's two largest customers are a natural gas utility company (Gas Company) and a telecommunications utility company (Phone Company). Contractor does not have contracts with entities exempt from sales tax pursuant to section 1116(a) of the Tax Law for these installations and does not enter into contracts with the owners of the properties upon which it performs services for its customers. Likewise, its customers do not enter into contracts with the owners of the properties upon which Contractor performs services. Contractor is engaged to install the underground natural gas mains and pipes used to carry natural gas and conduit used to house telecommunications cables under public roads and infrequently under an individual homeowner's private property. Gas Company purchases the mains and pipes which Contractor installs, but Contractor purchases the conduit which it installs for Phone Company. In both cases, Contractor purchases the road building materials, including fill, sand, stone and asphalt, it uses. For purposes of this Advisory Opinion, it is presumed that Contractor is making its installations for its customers, Gas Company or Phone Company, on easements in the case where such installations cross private property and on franchises where such installations cross public property.

Petitioner inquires as to Contractor's obligations in collecting sales tax from its customers and as to its liabilities for sales tax when purchasing various materials necessary to complete its contracts with its customers.

### **Issue 1 - Taxability of charges for installing mains, pipes and conduits by Contractor to its customers**

Services performed by construction contractors can generally be placed into one of three categories: *capital improvement*, *repair or maintenance*, or *installation of tangible personal property which remains tangible personal property after installation*. The contractor performs a *capital improvement* to real property when all three of the conditions in section 1101(b)(9)(i) of the Tax Law are met. If the contractor performs work which becomes an integral component part of the real property but does not meet the three conditions in section 1101(b)(9) of the Tax Law, a *repair or maintenance* service has been performed. Finally, if the contractor performs an installation which does not become an integral component part of the real property, the



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contractor has performed an *installation of tangible personal property which remains tangible personal property after installation*.

Whether or not work performed constitutes a capital improvement to real property must be determined by application of the three requirements provided in section 1101(b)(9)(i) of the Tax Law. Each of these three requirements must be met in order for an addition or alteration to qualify as a capital improvement. Furthermore, the classification of property as real property under the Real Property Tax Law does not determine whether the installation of such property is a capital improvement for sales tax purposes. See *Matter of Merit Oil v State Tax Commn.*, 124 AD2d 326.

The installation of gas mains and pipes used to carry natural gas and conduit used to house telecommunications cables requires that private property owners must grant an easement to the particular utility company whose installation crosses their property. Such utility company must also compensate the property owner for the taking of the easement. This action endows the utility company with certain rights to use the easement. Easements on private property obtained by public utility companies are “continuous and unlimited as to time.” (*Barber v Hudson River Telephone Co.*, 105 App Div 154) Such easements cannot be unilaterally terminated by the owner of the servient estate (the property owner) (*Zunno v Kiernan*, 170 AD2d 795). These easements may be conveyed to the utilities’ assigns or successors for a consideration in an instrument similar to a deed. See 49 NY Jur 2d, Easements §§ 146 - 157. See also *Banach v Home Gas Co.*, 12 AD2d 373. Gas Company retains and Phone Company obtains title to the mains and pipes, and conduit, respectively, installed by Contractor. It appears that each utility company exercises a power of ownership over its easement which is sufficient for it to make improvements which enhance the easement’s value to the utility company. It is reasonable to assume that the utility companies do not intend to remove the mains, pipes or conduits in the foreseeable future. In addition, the owners of the underlying property cannot unilaterally terminate the easements or require the utility company to remove the mains, pipes or conduits.

Therefore, an installation or replacement by Contractor of mains, pipes and conduits on private property pursuant to an easement granted by the property owner to the utility company, as described in this Advisory Opinion, which otherwise appears to meet the three conditions set forth in section 1101(b)(9)(i) of the Tax Law, and in the absence of any disqualifying provisions in the terms of the easement, qualifies as a capital improvement to real property. As a result, Contractor may accept from its customers, Gas Company and Phone Company, a *Certificate of Capital Improvement* (Form ST-124) in lieu of collecting sales tax on its charges for installing the mains, pipes and conduits on private property subject to an easement.

As the end result of such installations is considered a capital improvement to real property, the excavations of the property, including driveways, etc., prior to the installation and the property restoration performed after the installation constitute activities which result in a capital improvement. See *Building Contractors Association, Inc. v Tully*, 87 AD2d 909 [1982]; *Carl A. Morse, Inc.*, Dec St Tx Comm, June 18, 1980, TSB-H-80(144)S. Accordingly,

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Contractor will not be required to collect sales tax on its installation services if it is presented with a properly completed *Certificate of Capital Improvement* (ST-124).

Utilities generally receive a franchise which permits them to install mains, pipes and conduit in property owned by New York State or one of its political subdivisions. The franchise bestows rights on the utility which are similar to those granted by an easement. See 60 NY Jur 2d, Franchises §§ 1 - 3; *In re Gillen Place*, 304 NY 215. In the present case, Gas Company's mains and pipes and Phone Company's conduit are installed pursuant to a franchise. The mains, pipes and conduits remain the property of the respective utility after they are installed. It appears that each utility company exercises a power over its franchise which is sufficient for it to make improvements to enhance the franchise's value to the utility company. In addition, New York State or one of its political subdivisions cannot unilaterally terminate the franchise. It is reasonable to assume that the utility companies do not intend to remove the mains, pipes or conduits from the franchise in the foreseeable future.

If a franchise agreement includes a provision indicating that the installation is not intended to be permanent; for example, a provision giving the municipality the right to require the utility to remove the installed property after a fixed period of time, such installation may not qualify as a capital improvement. However, in the absence of any disqualifying provisions in the terms of the franchise agreement, an installation or replacement by Contractor of mains, pipes and conduits on the utility company's franchise, as described in this Advisory Opinion, which otherwise appears to meet the three conditions set forth in section 1101(b)(9)(i) of the Tax Law qualifies as a capital improvement to real property. See *Brooklyn Union Gas Company*, Adv Op St Tx Comm, May 15, 1985, TSB-A-85(7)S. Contractor will not be required to collect sales tax on such installations if it obtains from Gas Company and Phone Company properly completed certificates of capital improvement.

## **Issue 2 - Purchases of road building materials used on private property**

In general, purchases by a contractor of materials which are actually incorporated into and become an integral component part of the real property are subject to sales tax as a retail purchase by such contractor. Such materials are considered to be used or consumed by the contractor in the performance of its contract. See section 541.1(b) of the Sales and Use Tax Regulations. A contractor may purchase materials exempt from tax when the materials become an integral component part of real property owned by an entity or organization exempt from sales tax pursuant to section 1116(a) of the Tax Law. See sections 1115(a)(15) and (16) of the Tax Law.

In the present case, Contractor purchases road building materials including fill, sand, stone, and asphalt, that it uses to restore private property after the installation of mains or pipes for Gas Company or conduits for Phone Company. The property owner takes title to the portion of these road building materials used to restore its property upon completion of the project for Contractor's customers. The purchase by Contractor of road building materials which become



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an integral component part of private property is a purchase at retail subject to sales tax. See *Ruston Paving Co.*, Dec St Tx Comm, September 15, 1986, TSB-H-87(222)S.

**Issue 3 - Purchases of road building materials used on property owned by governmental entities exempt from sales tax pursuant to section 1116(a) of the Tax Law**

Contractor purchases road building materials including fill, sand, stone, and asphalt, that it uses to restore roadways and property of governmental entities exempt from sales tax pursuant to section 1116(a) of the Tax Law, after Contractor installs the mains, pipes or conduits. The exempt governmental entities who own these roadways and property take title to the road building materials upon Contractor's completion of the project for Gas Company and Phone Company.

Sections 1115(a)(15) and (16) of the Tax Law require that, in order to be exempt from sales tax, tangible personal property purchased by a contractor must become an integral component part of real property of an entity exempt from tax pursuant to section 1116(a) of the Tax Law. The contractor's purchases may be exempt even though the exempt governmental entity does not enter into a capital improvement contract with the contractor. In the present case, road building materials purchased by Contractor are installed in and become part of real property owned by an exempt governmental entity and title to the road building materials passes to the exempt entity upon completion of the contract with the respective utility company. Sections 1115(a)(15) and (16) of the Tax Law allow Contractor to make purchases of such road building materials for use exclusively by Contractor to restore the real property of an entity exempt from sales tax pursuant to section 1116(a) of the Tax Law without payment of sales tax to Contractor's suppliers.

When a contractor purchases materials which are exclusively incorporated into real property owned by a governmental entity exempt from tax pursuant to section 1116(a) of the Tax Law, the contractor may issue to its supplier a *Contractor Exempt Purchase Certificate* (Form ST-120.1) indicating that the materials will be so incorporated.

It should be noted that not all roads are owned by governmental entities. Roads owned by private persons are treated as any other private property. See *The Michaels Group, Inc.*, Adv Op Comm T&F, October 23, 1990, TSB-A-90(53)S. If, at the time of purchase, it is impossible for Contractor to distinguish between those road building materials that will be used to restore the property of an exempt entity and of a nonexempt entity, Contractor may not issue a contractor exempt purchase certificate. Contractor may apply for a refund or credit for the tax paid on those materials incorporated into the property of an exempt entity, provided such application is made within 3 years of the date on which the sales or compensating use tax was payable by Contractor's supplier. See section 1139(a) of the Tax Law.

It is possible that Contractor may be required to make its installations on private property owned by an organization exempt from sales tax pursuant to section 1116(a)(4), (5), (6), (7) or (8) of the Tax Law. In this case, Contractor will be eligible to purchase road building materials

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for incorporation into the above described projects without payment of sales tax in the same manner that such exempt purchases may be made with regard to such installations on property owned by an exempt governmental entity. See sections 1115(a)(15) and (16) of the Tax Law.

#### **Issue 4 - Contractor purchases of conduit**

Contractor purchases conduit material used to build the infrastructure for Phone Company's communication network. The conduit is buried under public roadways and, in some cases, private property. At a later date, Phone Company uses its own equipment to feed either copper cable, or fiber optic or other lines through the empty underground conduit. Phone Company obtains title to the conduit upon completion of the project. It does not transfer title to the conduit to the owner of the underlying property.

Section 1115(a)(12-a) of the Tax Law provides that purchases of tangible personal property for use or consumption directly and predominantly in the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale are exempt from sales and use tax. There is no longer a requirement that the tangible personal property constitute "central office equipment."

The conduit purchased by Contractor is not tangible personal property for use or consumption directly and predominantly in the transmitting of telecommunications services provided by its customer, Phone Company. The conduit is, rather, a structure which houses Phone Company's wires and cables, and, by itself, is not for use or consumption directly and predominantly in the receiving, initiating, amplifying, processing, transmitting, retransmitting, switching or monitoring of switching of telecommunications services for sale as contemplated by section 1115(a)(12-a) of the Tax Law.

Sections 1115(a)(15) and (16) of the Tax Law state that, "no exemption shall exist under this paragraph unless such tangible personal property is to become an integral component part of such structure, building or real property." With respect to Contractor's installations of conduit on property owned by New York State or one of its political subdivisions, such installation is performed pursuant to Phone Company's franchise, and title to the conduit is acquired by and remains with Phone Company. It is not transferred to the owner of the underlying property. The conduit, therefore, does not become an integral component part of the property of the governmental entity. Contractor's purchases of conduit used in this manner are not exempt from sales tax under sections 1115(a)(15) and (16) of the Tax Law but, rather, are subject to sales tax the same as any building material purchased by a contractor, subcontractor or repairman and incorporated into a capital improvement project. Likewise, purchases by Contractor of conduit installed on any private property in the manner described above are subject to sales tax.

#### **Issue 5 - Contractor's acceptance of capital improvement certificate**

Contractor should obtain from Gas Company or Phone Company a properly completed *Certificate of Capital Improvement* (Form ST-124) for each contract for the installation of mains,

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pipes or conduit that constitutes a capital improvement. If Contractor in good faith accepts a properly completed certificate within 90 days of the date Contractor renders its installation service, Contractor has satisfied its burden of proof that the project was a capital improvement project and that Contractor's charges to Gas Company or Phone Company are not subject to sales tax. See section 1132(c)(1) of the Tax Law and section 532.4 of the Sales and Use Tax Regulations.

#### **Issue 6 - Documentation for project with exempt governmental entity**

Petitioner inquires whether Contractor's agreements with its customers constitute sufficient proof that the road building materials described above are used in a project for an exempt governmental entity, or whether additional documentation is required.

In the instant case, no construction contract is in place between either Contractor or its customer and an entity exempt from sales tax pursuant to section 1116(a) of the Tax Law. However, Contractor can substantiate that its purchase of road building material is to become an integral component part of property owned by an entity exempt from sales tax pursuant to section 1116(a) of the Tax Law by relying on a signed document between Contractor and its customer which identifies the project, location and owner of the real property upon which the work is being performed, assuming Contractor's records allow it to tie in a particular purchase of road building materials to the contract with the customer. Contractor should provide its suppliers of road building materials with a properly completed contractor exempt purchase certificate only for those road building materials which will be installed in property owned by an entity exempt from sales tax pursuant to section 1116(a) of the Tax Law. Alternatively, Contractor may pay sales tax on its purchases of road building materials and subsequently apply for a refund or credit for the tax it paid on those road building materials installed in property owned by an entity exempt from sales tax pursuant to section 1116(a) of the Tax Law.

DATED: May 27, 2005

/s/  
Jonathan Pessen  
Tax Regulations Specialist IV  
Technical Services Division

NOTE: The opinions expressed in Advisory Opinions  
are limited to the facts set forth therein.



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What is the voltage rating for Superior Essex copper communications cables?

Copper Premises and Outside Plant (OSP) cables from Superior Essex have a 300 volt working voltage capability when used in communication circuit applications.

Communications cables, commonly referred to as low voltage cables, are not required to be marked with a voltage rating or listed as such by any listing or testing organization.

Although not marked, our copper premises products have a 300-volt rating meeting the requirements of UL Standard 444, which states that wires listed as CMR or CMP are qualified for a 300-volt rating.

In OSP cables, the voltage capability is purposefully omitted from the cable jacket, replaced with a telephone handset to avoid confusion in the field with high voltage power cables.

The working capability of traditional 300-volt applies to OSP copper telecommunications cables manufactured in compliance to specifications including PE-39, PE-89, PE-86, Telcordia GR-421-CORE and GR-492-CORE as well as newer OSP Broadband Category 5, 5e, 6 and 6A designs.

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How do you size OSP conduit?

As a rule of thumb, make sure the diameter of your duct is at least 1.15 times greater than the diameter of your cable, or one-half trade size larger in diameter than the diameter of the cable you plan to install.

When using pulling eyes, the diameter over the pulling eye becomes the most critical element to sizing conduit.

**Can I run copper OSP cable inside a building?**

Outside plant cables are not rated for UL CMR or CMP listing and when used inside buildings the National Electrical Code\* requires the cable be placed inside metal conduit (NEC article 800-50, exception 2). In addition to NEC regulations, special state, county and local building/fire codes may apply when engineering projects utilizing this type of cable.

The NEC allows OSP cable to be extended from the outside a maximum of 50 feet to allow a termination to be made.

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**What is the recommended minimum bend radii when installing copper OSP cabling?**

The recommended minimum bend radii for corrugated single shield tape designs is 12 times the cable diameter.

The recommended minimum bend radii for corrugated dual shield tape designs is 15 times the cable diameter.

The recommended minimum bend radii for flat, single, shield tape designs is 15 times the cable diameter.

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**What is the "voltage rating" of copper OSP cabling?**

The Superior Essex OSP copper cables have a 300 volt working voltage capability when used in communication circuit applications.

Communications cables are not formally voltage rated or listed as such by any listing or testing organization. OSP designs are manufactured to industry specifications that require, without failure, voltage testing between conductors and between the conductors and shield. This information is included in the electrical specification portion of each products catalog sheet.

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**What is the life expectancy of traditional OSP copper cables?**

Outside plant (OSP) copper cables are designed based on a life expectancy of 30 years. Raw materials and finished cables are tested using life-cycle test procedures. OSP cable designs are available with many shielding options to accommodate a variety of installation environments. Choosing the appropriate shielding system for your environment will provide the greatest chance for 30+ years of trouble free service.

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**What guidelines should be considered when placing an OSP copper cable underwater?**

Standard gel-filled OSP copper cables are designed for water-prone areas, but for applications that require the cable to be under significant water pressure (e.g., ponds,

# Poles

NORTH AMERICAN WOOD POLE COUNCIL  
**TECHNICAL  
BULLETIN**

# Estimated Service Life of Wood Poles

Prepared by:

**JEFFREY J. MORRELL**

Department of Wood Science & Engineering  
Oregon State University



# Introduction

Utilities are often faced with questions about how long a pole lasts once it is placed in the ground. Why does it matter? There are a number of important reasons for paying attention to service life. First, utilities want to maximize their capital dollars and longer service life reduces the need for pole replacements. More recently, utilities have begun to examine their carbon footprint. While thousands of tons of carbon are stored in the utility wood pole plant, a relatively small portion of a utility's total carbon footprint is represented by the electric transmission and distribution system. Efforts to reduce this footprint can have important public relations value. Wood poles offer an opportunity for atmospheric carbon sequestration not provided by other materials.

A recent Electric Power Research Institute study suggested that wood poles lasted 50 years. Most utilities assume that their poles provide 30 to 40 years of service life. Which is really true or are they both wrong? How would you find out? How do you compare these numbers with claims by producers of competing materials that their poles will last 80 or more years? There are a variety of competing claims about how long poles last. In some cases, such as for wood, lattice steel and pedestal-mounted thick-walled steel poles, the claims are based upon actual performance data. However, there is little or no long term data for many more recently developed materials, or new use patterns such as direct-burial of steel poles. Instead, the producers of these products depend upon accelerated testing or extrapolations from the performance of similar materials to support claims.



## Discussion

A 1999 Oregon State University survey of utilities across the U.S. revealed that a majority of respondents believe that their poles last between 20 and 40 years. There is compelling evidence indicating that the estimated 30 year pole service life originated from curves developed to estimate economic service rather than actual service life. The goal was to determine when the investment had been returned, rather than when the pole had actually failed.

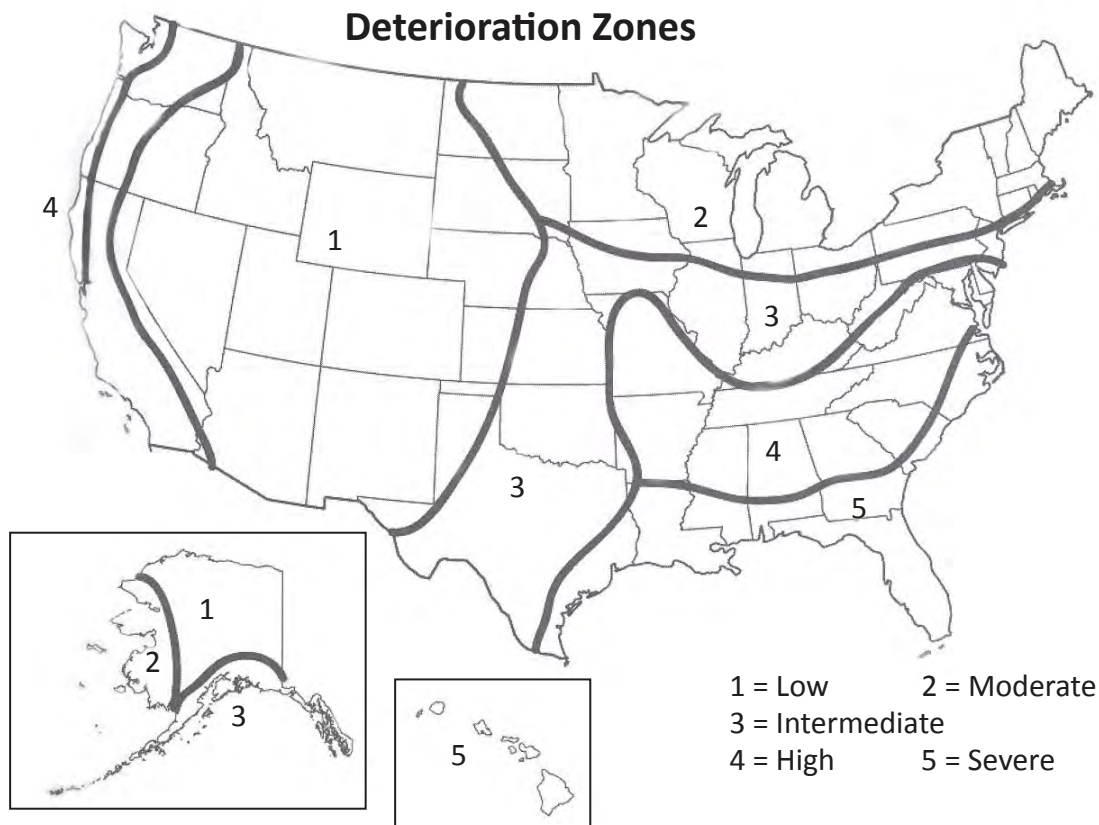
Actual pole service life is a function of many factors including the specification, the quality of treatment, the conditions to which the pole is exposed, and how well the pole is maintained during use. In a single utility, one can look at pole records to estimate service life. Many utilities record the date of pole installation along with supplier, wood species and treatment details. They may also record inspection dates along with any supplemental treatments applied and, finally, they record when the pole is changed out. The final information may not be directly tracked because the new pole information automatically populates the data base replacing the original data but if it is, the utility can directly calculate service life. Utilities can also examine pole purchasing records to infer replacement rates, but this also depends on how much new line construction is occurring within the system. This data must be viewed carefully because it includes poles removed for all causes not just those no longer capable of supporting their original design load. Poles may be removed for upgrades, road widening, car/pole interactions, storm damage, or a number of other reasons.

As you might expect, pole quality can have a major effect on service life. All poles should be specified to the Standards of the American

Wood Protection Association (AWPA). These consensus standards provide minimum levels of treatment for all native pole species currently listed within the American National Standards Institute Standard O5.1. Although there will be differences in characteristics of poles treated with various chemicals, new chemicals are assessed by the technical committees that set AWPA Standards with the assumption that they should all provide similar resistance to deterioration. This leaves the user with a suite of chemicals that may produce poles that are different colors, vary in fire resistance, or differ in climbing characteristics, but they should provide similar service with regard to resistance to fungal or insect attack. Utility enhancements to specifications can also enhance performance. For example, most users of Douglas-fir utility poles through-bore, radial drill, deep-incise or kerf to improve treatment at the groundline and these practices markedly reduce internal decay and extend pole service life.

The environment to which a pole is exposed can have a major effect on service life. On a national scale, the AWPA Standards divide the country into 5 different decay zones (see Figure 1), with Zone 1 having the lowest risk of decay and Zone 5 the highest. Clearly, a pole treated to similar levels will perform better in a given Zone, but the AWPA Standards address this issue by providing several retentions that can be specified for a given chemical. The assumption is that poles exposed to a higher decay hazard will be treated to higher chemical loadings.

Maintenance can also be a major factor in pole service life. The National Electrical Safety Code mandates that utilities maintain their wood poles so that they retain 2/3 of their original required design strength. In order to



*Figure 1. Map showing the decay hazard zones for the United States where 1 is a low hazard and 5 is a severe decay hazard (Courtesy American Wood Protection Association). In certain modified environments such as banks along irrigation canals or irrigated residential or agricultural lands, a higher degree of protection might be needed than would be required in the local natural environment. It must also be recognized that within individual regions, certain natural environments such as river valleys or coastlines may present greater potential for wood deterioration than the region as a whole.*

meet this requirement, utilities must establish some regular program of inspection and maintenance. Most utilities inspect their poles on a 10 year cycle, using intrusive procedures that include boring into the pole at or below groundline and, for some species, excavating around the pole and examining the surface for external decay. There is compelling evidence to show that these procedures, coupled with application of remedial treatments and the use of reinforcements, markedly extend pole service life.

So, how can we estimate pole service life across the United States? Pole purchases vs total poles in service can be used to estimate overall replacement rates. In a survey of 261 utilities across the United States that owned

over 42 million poles, utilities reporting purchasing approximately 252,000 poles of various species per year. This figure represented all purchases including those for upgrades, accident poles and poles failing due to deterioration. This represents a 0.6 % annual replacement rate. A similar 2006 survey of utilities in the Pacific Northwest found similar results and further segregated the causes for replacement (see Figure 2). In this case, the survey revealed a slightly higher replacement rate (0.8 % vs 0.6 % in the larger survey). Over half of the poles removed from service (56 %) were decayed; however, poles removed for road widening or upgrades represented 38.1 % of poles removed from service. While some of these poles might have had reduced capacity, they had not deteriorated to the point where their

condition necessitated replacement. This means that over a third of the poles removed from service were candidates for reuse and, if these poles could be reused, they would further reduce the replacement rate to 0.5 % per year.

If we use this replacement rate, the average pole service life would easily reach 80 years in many areas of the country, far in excess of the perceived 30 to 40 years. Thus, old wood does not mean weaker wood.

While service life will vary among utilities, if we look in most utility systems, we see enormous quantities of lines installed in the 1950's where the vast majority of the poles remain in service. It is also important to remember that like most materials used by utilities, wood pole quality has improved. Over the intervening 50 years since the U.S. expanded the electrical grid, the AWPAs specifications have shifted from gauge to results type treatments which means that actual chemical content in the wood is

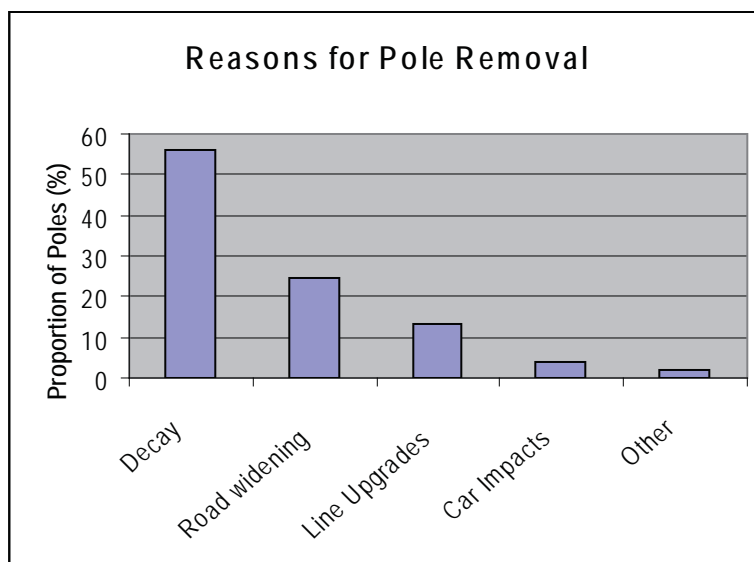


Figure 2. Causes for rejection of poles removed from service in the Pacific Northwest (based upon 52,375 poles)

assayed. In addition, most utilities now inspect every pole, ensuring that all poles installed in a system are properly treated. Finally, the development of effective maintenance programs further extends the life of the pole. All of these actions have resulted in wood poles that will perform more reliably for longer than ever before.

## Epilogue

Wood poles already have substantial advantages over other materials because wood is renewable, sustainable, generates less greenhouse gases during manufacture, and provides a long-term repository for atmospheric carbon. Prolonging the useful life of a wood pole further enhances the carbon footprint through requiring less replacement activities, keeping thousands of tons of carbon stored in the existing pole plant (i.e. utility distribution

and transmission system) and allowing growing replacements to continue carbon sequestration in the forest. Thus, wood poles offer utilities some attractive options as companies move to do their part with regard to global climate change.

The next time you are asked how long a pole will last, remember that the answer is as long as you want it and far longer than you ever thought.

**Disclaimer.** The North American Wood Pole Council and its members believe the information contained herein to be based on up-to-date scientific information. In furnishing this information, the NAWPC and the author make no warranty or representation, either expressed or implied, as to the reliability or accuracy of such information; nor do NAWPC and the author assume any liability resulting from use of or reliance upon the information by any party. This information should not be construed as a recommendation to violate any federal, provincial, state, or municipal law, rule or regulation, and any party using poles should review all such laws, rules, or regulations prior to doing so.

**North American Wood Pole Council**  
[www.woodpoles.org](http://www.woodpoles.org)



# WOOD POLE

## NEWS LETTER

Volume 20, IEEE/PES Expo Edition, 1996



Western Wood Preservers Institute

## WOOD POLES: HOW LONG DO THEY LAST?

30...45...60...

100 YEARS?

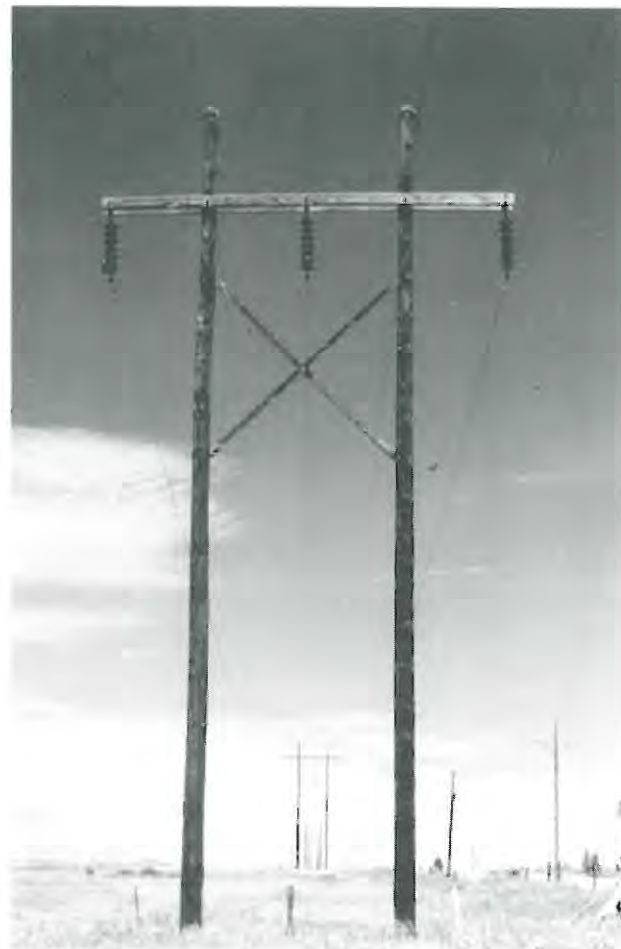
IT MAKES A  
DIFFERENCE!

While initial purchase and installation costs remain a key consideration for utilities in the selection of transmission and distribution pole materials, total life cycle costs analysis is becoming a predominate decision criteria. Considering all the costs for the system, including maintenance and replacements, a "cradle to grave" approach helps assure the best decisions are made.

In doing life cycle cost analysis, no variable is more critical than the value assigned to the expected performance life of a product. As the following analysis by Andy Steward of EDM clearly demonstrates, real life data indicates the life of wood systems is significantly longer than is perceived by most utility customers. While more research efforts are needed, the Institute believes it is abundantly clear that the current perceived wood pole life of  $35 \pm$  years can be conservatively doubled to  $75 \pm$  years for use in life cycle cost analysis where appropriate inspections and maintenance programs are included in the project.

WWPI and the treated wood industry are dedicated to continuing efforts to provide the utility industry with the most reliable wood poles and crossarms possible; and to assure the best scientific information is available for use by the decisions makers.

Dennis Hayward  
Executive Director



*"In general, most utilities consider wood poles to have an effective service life of 40 years; however, there is an increasing body of evidence that average service lives may extend to 80 to 150 years where poles are properly specified and maintained."*

-- Dr. J.J. Morrell, Department of Forest Products, Oregon State University, EPRI Workshop: Manufactured Distribution and Transmission Pole Structures, July 25, 1996.

**Need Information on Treated  
Wood Poles or Crossarms?  
Call WWPI 1-800-729-WOOD**



# WOOD POLE LIFE SPAN: WHAT YOU CAN EXPECT

By Andrew H. Stewart, Director of Engineering  
Engineering Data Management - Fort Collins, CO

## INTRODUCTION

An essential variable in design and purchase decisions for overhead utility lines is the life expectancy assigned to the various structure options. It is the critical value in life cycle cost analysis. Currently, most utilities assume a 30 to 40 year life expectancy for wood poles but utility experience indicates that the actual life of properly produced and maintained wood poles is significantly longer — certainly approaching 75 or more years of service.

In most surveys, utilities indicate that the primary cause of degradation-induced pole replacement is degradation due to decay in the near-groundline zone. However, review of transmission line operation and maintenance records shows that, when a standard maintenance program is employed, significant deterioration of the condition of wood within the assumed 30-40-year life expectancy is not expected.

Several factors have contaminated life estimates for wood poles. These factors need to be reviewed and addressed before meaningful life-cycle cost analyses can be performed. One such potential contaminate is the data which has been incorporated into service life estimates. For example, life estimates often include poles that have been changed due to system modification — such as line re-routes that have little or nothing to do with line condition. Inclusion of such data in life estimates for poles, especially in urban areas, can lead to significantly under-estimated service life expectancies.

This article examines the relevant assumptions about pole life that have been generally accepted by the utility industry and wood pole manufacturers — and compares them to some real-world case histories. The question is: How long do wood poles last? Several other questions need to be addressed to assess the reliability of the projected life span assumptions:

- Do actual mortality and/or survival data support this assumption?
- Have statistics from a few isolated sources of data been inappropriately accepted as gospel?
- Have wood pole life data been contaminated by factors that do not directly relate to mortality induced by degradation?

These are important questions that should be answered in order for utilities and other users of wood poles to make informed, cost-effective material acquisition decisions.

The premise of this article is that a significant body of evidence exists that supports a significantly longer life for the average wood pole than the 35 years assumed by most utilities in conducting life-cycle economic evaluations of least-cost product alternatives for line construction. Based on the premise that wood pole life is significantly longer than the generally accepted value, it is likely that degradation mechanisms, in addition to near-groundline decay, will become limiting factors in determining pole life. Thus, in addition to examining wood pole life, this review will examine some key considerations associated with improving the life of new wood poles and extending the life of those already in service.

## ASSUMED MORTALITY RATES FOR WOOD POLES

Several utility industry surveys have been conducted in the last 15 years seeking information on the perceived performance of various structure materials used in the construction of transmission and distribution lines. Most of these have requested information on the perceived service life of wood poles. The relevant results of a representative survey are summarized in Figures 1 and 2.

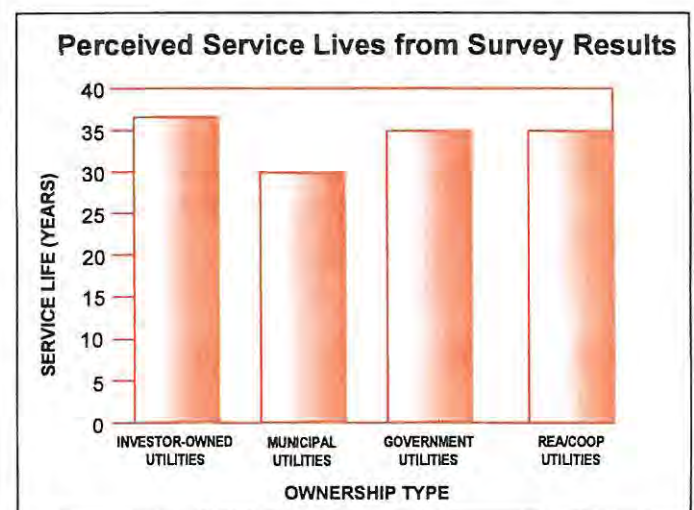


Figure 1. Average perceived service lives of wood poles in various geographical regions of the U.S. (determined through a survey of electric utility industry personnel).



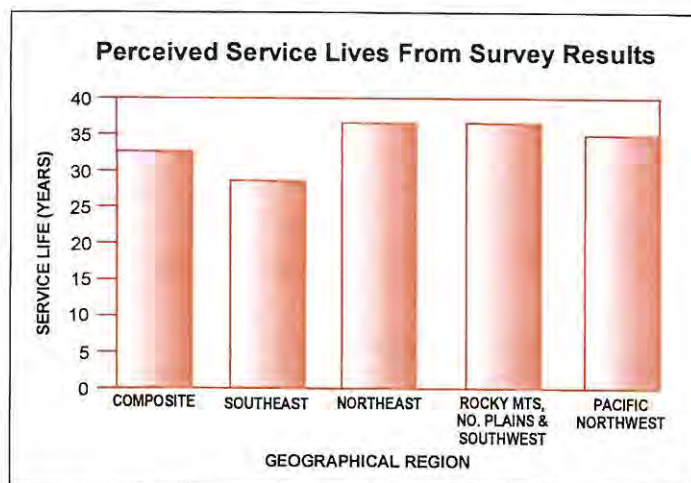


Figure 2. Average perceived service lives of wood poles within various ownership classifications of electric utilities (determined through a survey of electric utility industry personnel).

The results of this survey were compiled based on responses from approximately 80 investor-owned utilities, 30 municipal utilities, 15 government utilities and 25 REA cooperatives.

Examination of the results reveals an average perceived life of 33 years. When regional differences are considered, a range of average service lives from 28 to 37 years is observed. The most common reason for pole replacement was cited as "strength degradation due to groundline decay."

For comparison, the following section identifies the percentages of pole replacements that have occurred in several randomly selected wood pole lines based on current line inventory and inspection records.

## INVENTORIES AND INSPECTION RECORDS

Inventory and line inspection data for several transmission lines were randomly selected to evaluate the actual mortality rates for wood poles. The basis for and assumptions used in selecting lines for the evaluations are cited below. Only data that were readily available to the author were incorporated in the evaluation; no attempt was made to solicit additional information to corroborate the results presented herein.

### Assumptions and Justification for Line Selections

**Lines were Selected from Utilities that have Regularly Scheduled Pole Inspection and Maintenance Programs**

The ideal wood pole treatment (i.e. low cost, environmentally-benign, permanently effective treatment) is yet to be developed. For this reason, it has long been recognized by most utilities that regularly scheduled inspection and remedial treatment of the near-groundline zone is necessary to detect and arrest the progression of decay. In the absence of such a program, decay damage may rapidly progress to the stage where pole replacement is necessitated. Since regularly scheduled programs of pole inspection and remedial treatment have become the norm rather than the exception in the utility industry, only lines that have been maintained with such a program have been included in the evaluation.

To further eliminate the possibility of negatively biasing the data, lines known to include improperly treated and/or improperly sterilized poles were excluded from the evaluation. To avoid positively biasing the data, lines constructed with poles enhanced with pretreatment manufacturing processes, such as through boring and radial drilling, were excluded from the evaluation.



### Data from Cross Country Transmission Lines were Used

It has been observed that several factors are often included in estimates of wood pole replacements and life expectancy that are totally unrelated to mortality due to degradation. This is particularly true for distribution lines and transmission lines in metropolitan areas, especially those adjacent to roadways. Factors other than "normal" degradation that contribute to replacement rates and perceived service life include:

- Utility Line Reroutes/Relocations

Poles are often replaced due to reroutes/relocation of lines necessitated by new building construction or road widening.



- Line Upgrades/Additions of Circuits and/or Services

As increasing demands are placed on the existing infrastructure available for the transmission and distribution of electrical power and telecommunications, it is often necessary to place additional equipment on existing structures. In some cases, the increased structural loads imposed by added equipment cause the load limits specified by codes for particular heights and classes of poles to be exceeded. Therefore, in order to comply with code requirements, utilities will replace overloaded poles with larger class poles. Such replacements will most often have nothing to do with pole condition. Similarly, upgrades can lead to the need for replacement of existing poles with taller poles if the minimum electrical clearances specified by the controlling code cannot be maintained.

- Mechanical Damage Due to Vehicular Impacts

It is not unusual for poles along roadways or in parking lots to be replaced due to abrasions or breaks caused by vehicular impacts. While this type of damage results in a physical failure of the product, it should not be confused with failure due to "normal" degradation (e.g. biologically-induced degradation) of poles.

#### Lines in Woodpecker Prone Areas were Avoided

Woodpecker damage is known to be a predominant cause for pole replacement in a small number of regions of North America. To avoid biasing the mortality data for the limited number of areas where woodpecker damage is the primary cause for pole replacement, inspection records for candidate lines were reviewed and lines found to contain significant woodpecker damage were excluded from further study. This approach is not meant to downplay the importance of woodpecker damage. In certain areas of North America, woodpecker attack can be very aggressive and rapidly degrade the strength of poles. However, this type of severe damage is limited to a relatively small percentage of the overall population of poles.

It is reasonable to exclude all of the aforementioned factors from estimates of wood pole mortality as these factors are anomalies that lead to premature replacements. With the exception of woodpecker damage, these same factors would contribute to

premature replacements of poles manufactured from any commonly used materials. To avoid complications in interpreting and judging the reasonableness of data from various types and locations of utility lines that may have been contaminated by the aforementioned factors, only cross-country transmission lines were considered in the evaluation of pole mortality.

Five transmission lines were randomly selected from three different utilities systems in order to evaluate the percentages of poles that have been replaced since the date of line construction. Table 1 presents the statistics for each of these lines.

**Table 1. Pole Replacement Statistics for Five Transmission Lines**

LINE NUMBER	AGE OF LINE (YEARS)	LENGTH OF LINE (MILES)	ORIGINAL POLES STILL IN SERVICE (%)	REPLACEMENT POLES (%)
1	32	100	98.6	1.4
2	42	80	97.0	3.0
3*	45	12	85.7	14.3
4*	57	10	83.2	16.8
5*	57	13	100	0

A groundline inspection and remedial treatment program was not implemented for these lines until approximately 10 to 15 years ago.

#### DISCUSSION OF SERVICE LIFE DATA

Comparison of the perceived service lives of wood poles in Figures 1 and 2 to the actual pole replacement data presented in Table 1 reveals some very significant differences.

If the average service life for a wood pole is close to the 33 years determined from the survey, it is reasonable to expect that more than 50% of the poles in lines in excess of that age would be replacements. However, the actual line inventory data selected for the study reveals that nowhere near that quantity have been replaced. The 33-year average also conflicts with the results of the experience of many utilities that have adopted regimented programs of inspection and remedial treatment of wood poles. Most utilities that regularly inspect and remedially treat their poles on a typical 10-year cycle state that they are experiencing replacement rates ranging from 2% to 4% of the inspected poles and that this replacement rate represents a steady-state condition as long as they stick to their maintenance program.



Given that this is truly a steady-state replacement rate, how long should the average wood pole last in a utility line that is inspected and treated on a 10-year cycle, starting after the line has been in service for 20 years?

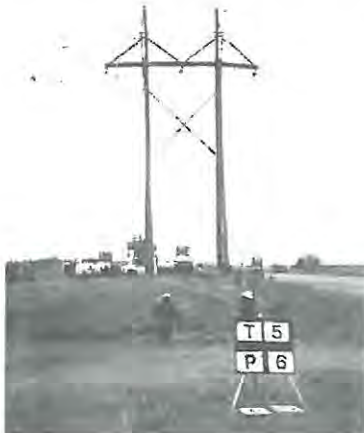
If it is assumed that the average service life is represented by the age when 50% of the poles have been replaced, then the range of average service lives is found to be from 135 to 260 years for the 4% and 2% replacement rates, respectively. While this range may seem surprisingly high, it is probably not unrealistic if groundline degradation is the only cause for pole replacement and this mechanism is controlled through remedial treatment. Unfortunately, as poles age, other degradation mechanisms will come into play that will affect their service lives. Typical inspection and maintenance programs are not currently geared toward controlling these types of degradation. Thus, maintenance practices will likely need to be modified to address secondary mechanisms of degradation.

#### EXTENDING AND ENHANCING THE LIFE OF POLES

If wood pole life is significantly longer than the perceived average of 33 years, it is likely that factors other than groundline decay will come into play in limiting life. To help ensure that extended lives can be achieved, new maintenance practices will need to be developed and implemented to address degradation mechanisms including:

- Pole top decay (stove piping)
- Decay at connections
- Splitting of pole tops
- Excessive weathering

Opportunities also exist to improve the cost-effectiveness of remedial treatments currently used to control decay at groundline by extending their effectiveness and automating their application.



*Full scale tests of 62-year old 115kV H-frames at Nebraska Public Power District (conducted by Engineering Data Management, Inc. and Hughes Brothers, Inc.)*

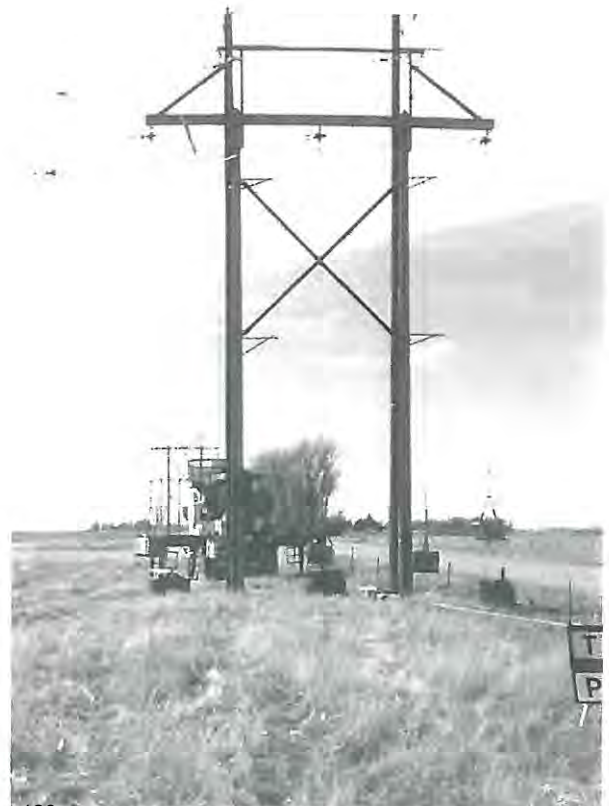
#### SUMMARY AND CONCLUSIONS

While the evidence evaluated in this study is inadequate to definitively establish how long a wood pole will last, it is adequate to raise serious questions about the prudence of the current practice of using the relatively short service life of 30 to 40 years in life-cycle cost analyses. When actual line inventories and inspection records are studied, significantly longer projected service lives are indicated.

Utilities are encouraged to carefully consider this issue and review their own data; it may not be out of line for many operating environments to use an estimated average life for wood poles of more than twice of that which is often assumed in life-cycle analyses.

More investigation is needed into actual service life experience. Manufacturers, users and researchers are encouraged to take a closer look at this issue. Objective, uncontaminated data are needed to reliably project expected service lives for wood as well as alternative material poles.

**Decisions based on perception rather than actual experience can be very costly!**





# Wood Pole Life Extension & The Case for Capitalization

Nelson G. Bingel III • David Bonk

Osmose®

## Executive Summary

As a utility asset manager, what would it mean to you to be able to fund a meaningful portion of your annual wood pole inspection and treatment program cost with capital dollars? This paper will provide information and documentation that applying remedial treatments to wood poles significantly extends service life, demonstrating a substantial addition or betterment to the pole plant and meeting the requirements for capitalization under FERC accounting guidelines. Utility companies can realize substantial operating benefits and a positive impact on earnings. Ratepayers may experience lower costs over time as utility companies reduce O & M expenses and secure more consistent annual treatment program funding to maintain optimum inspection and treatment program cycles.

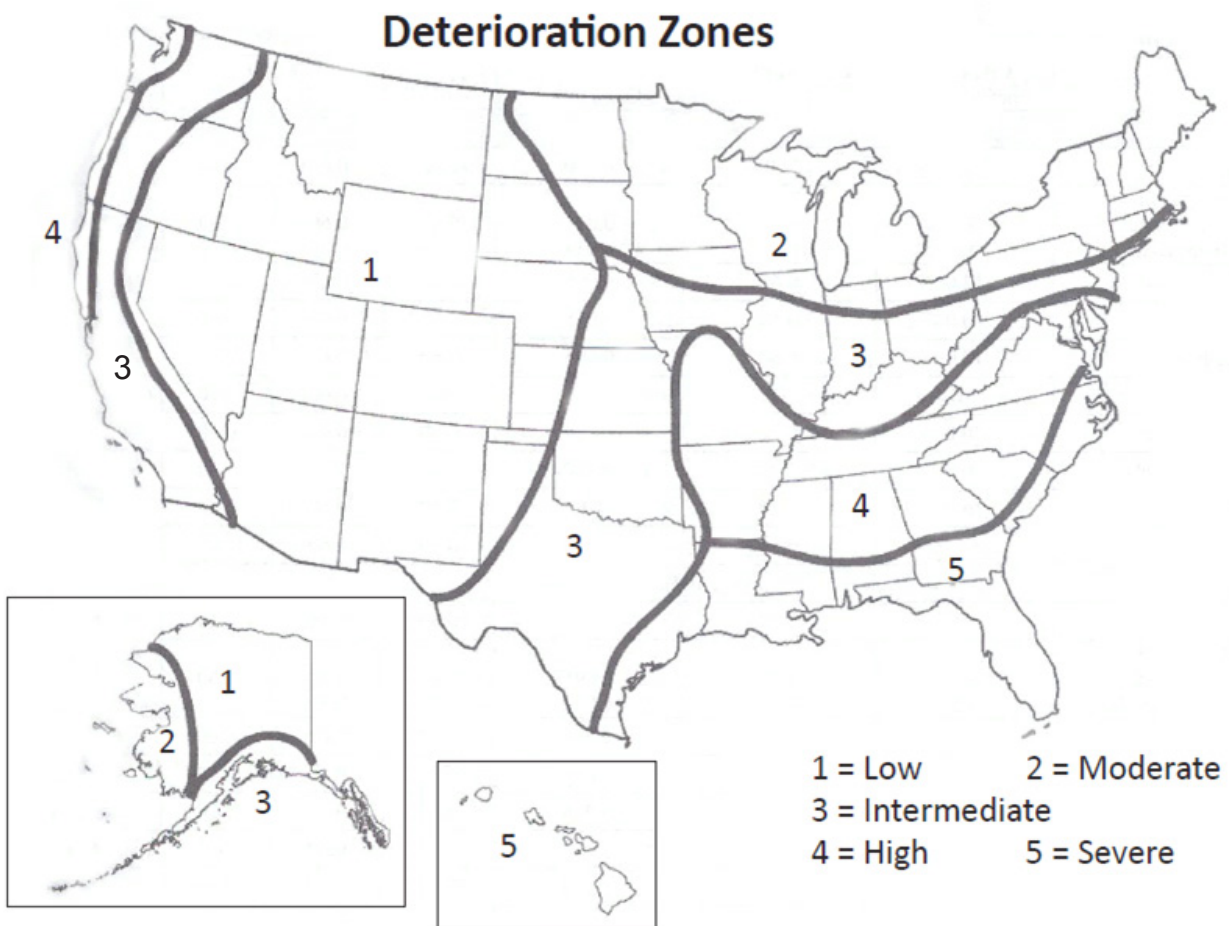
Nationally, many utility companies do not use capital funding for any portion of their wood pole inspection and treatment programs. This paper outlines the results of a detailed actuarial analysis of a 600,000-pole database conducted for Osmose Utilities Services, Inc. by Oliver Wyman, part of Marsh & McLennan Companies and a leading global management consulting firm, which supports the case for the capitalization of remedial pole treatment costs. It also references other third-party studies supporting the long-term life extension benefits of pole treatment.

This paper will first review historical pole inspection data which provides documentation on expected pole life without remedial treatment. The results of our analysis and other third party studies on documented pole life extension through supplemental remedial treatment will then be reviewed in the context of FERC accounting guidelines and case studies relevant to the categorization of pole treatment as a capital expense. Finally, we will briefly discuss the materiality of the treatment expense in the context of distribution poles as a mass asset account, along with potential impacts on depreciation schedules.

## Projected Service Life and Decay Hazard Zones

Recent estimates put the number of wood poles in service across the U.S. at 150-170 million. Decay, along with insect and mechanical damage, may reduce pole bending strength over time. As defined by National Electric Safety Code (NESC) strength requirements for wood poles, large segments of the pole population are nearing the end of their expected service life.

Predicted service life varies with the severity of five (5) decay hazard zones which are geographically defined by the American Wood Protection Association (AWPA) as follows:



## Exhibit 20

Osmose previously conducted and published research on Predicted Service Life by Decay Hazard Zone (without any remedial treatment) utilizing data compiled on 751,000 utility poles commercially inspected across the U.S. between 1988 and 1999. Predicted service life is calculated as the point where 50% of the sample has a remaining strength that is less than required by the NESC. These poles are typically categorized as “rejects” during the inspection process.

Predicted service life for the national dataset as a whole is **45 years**, and the separate values for each decay zone are as follows:

Decay Zone 1	Decay Zone 2	Decay Zone 3	Decay Zone 4	Decay Zone 5
49.8 years	56.8 years	44.5 years	43.0 years	40.3 years

This analysis went on to show the positive results a typical pole owner could expect from an effective inspection and treatment program. Fast forward to 2014 and the issue of effectively managing an aging plant infrastructure and dealing with a potentially large “bubble” of older poles installed in the 60's and 70's remains for many utilities today. Consistent funding remains a challenge given the current practice to utilize increasingly tight O & M budgets which can literally change with the weather. The implication is that inaccurate or ineffective capitalization approaches can sometimes drive sub-optimal asset management decisions by utility operating managers.

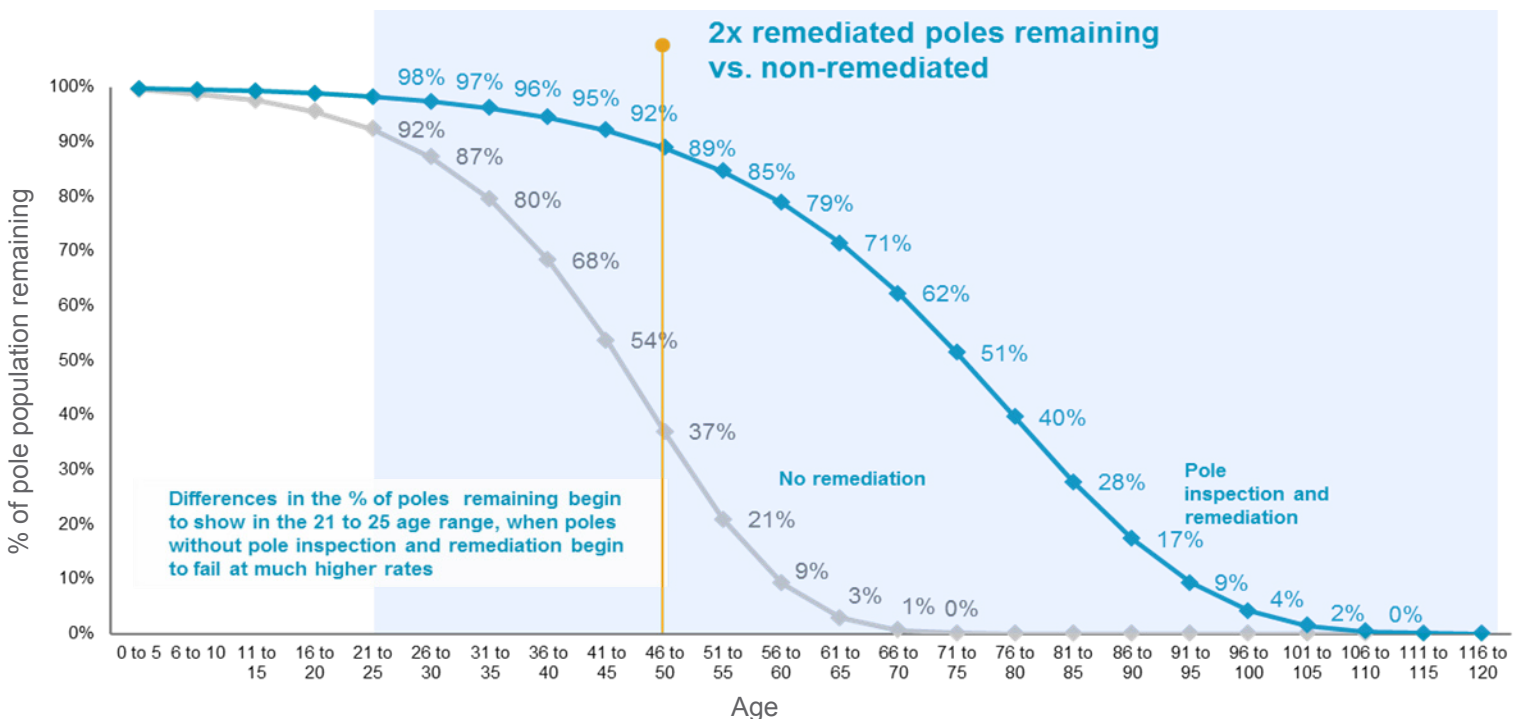
### Inspection vs. Treatment Activities

Typically pole inspection and pole treatment have been lumped together. From an operational perspective this makes perfect sense since both tasks are completed during the same visit to the pole. In reality they are two distinct activities from an accounting perspective and can very legitimately be separated. The use of a treatment product on a wood pole is not a maintenance expense targeted at identifying or fixing a malfunctioning asset, or as defined by FERC, is not related to “inspecting, testing, and reporting on condition of plant specifically to determine the need for repairs or replacements.” Rather it is more logically a capital expense with well-documented life extension benefits.

### Pole Treatment and Expected Life Extension Benefits

Historically at Osmose we have compiled and reported pole data to utility companies in the form of a “Survivor Curve” showing relative reject rates with and without pole inspection and remedial treatment. For this most recent analysis we analyzed data from 600,000 poles representing all five decay zones that contained poles with both previous remedial treatment as well as no remedial treatment. Actuarial survival analysis modeling was used to project expected pole failure ages. As shown on the chart below, at the 46-50 year age band there are twice the number of remediated vs. non-remediated poles remaining in service. We start to see meaningful separation in the 21-25 year age range.

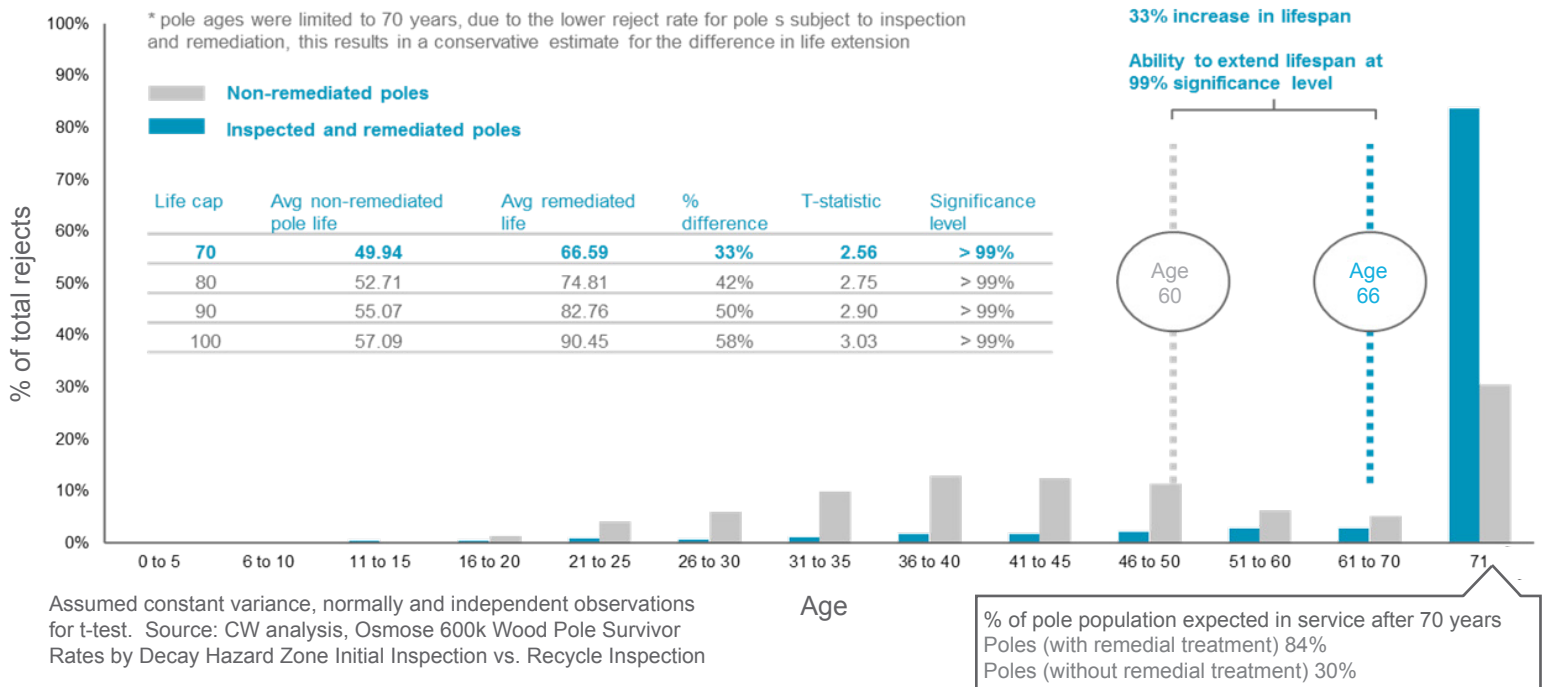
### Observed Survival Rates - Projected General Linear Model



## Exhibit 20

Next the data was used to compare expected average life without remedial treatment to the extended average life with inspection and remediation. The following chart is based on the conservative assumption that no pole will last longer than 71 years. This “capped life” model used seventy-one (71) as a projected ending age to generate a true average vs. predicted median age of failure. The results demonstrate a measured 33% increase in lifespan or 16 year pole life extension for remediated poles.

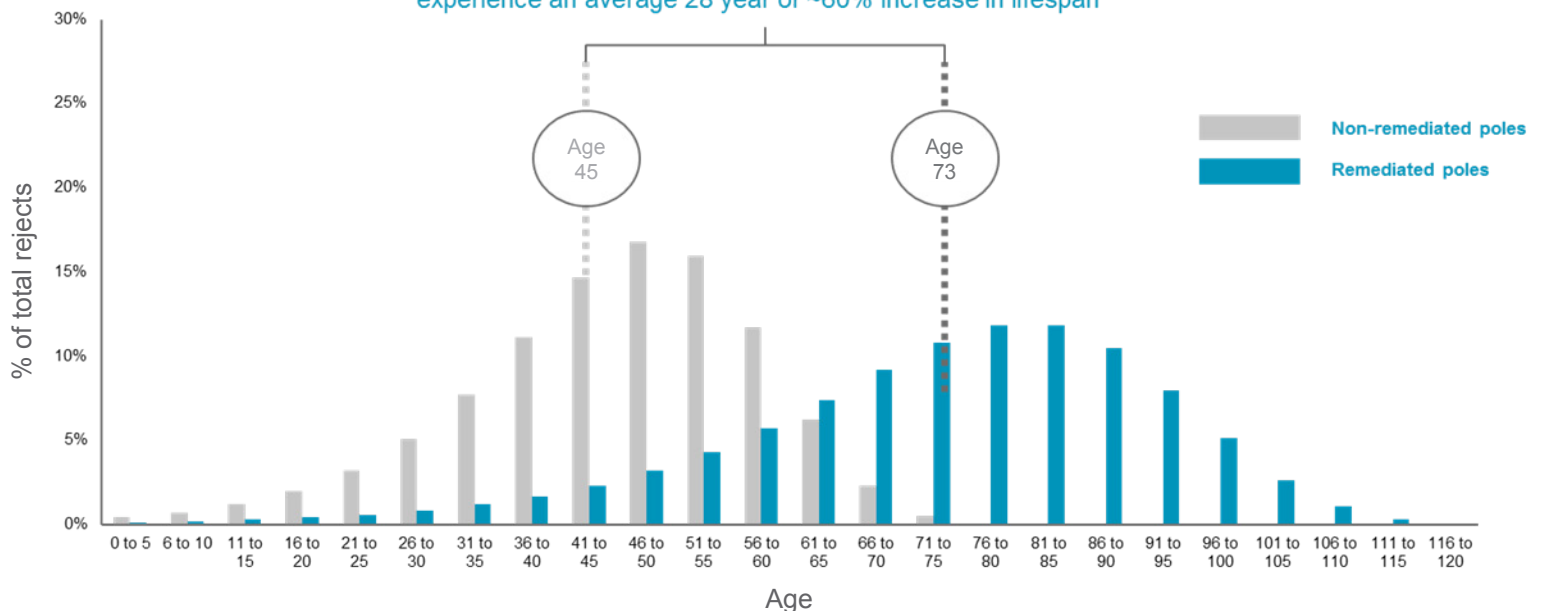
### Life Extension of the Asset - Capped Life Model



Next the 71 year life cap was removed to get an even more realistic model of what is actually happening with the wood pole plant. The following chart shows the average life without remedial treatment is 45 years, but with remedial treatment is 73 years—a **28 year or 60% increase**. The actuarial analysis model allows us to project this out and is beneficial given the lack of performance data on 80 and 90 year old poles. Individual utility calculations on useful life extension relative to their specific pole plants may be validated and adjusted based on local environmental factors (geographic location, decay zone), asset demographics (wood species, original treatment) and past remedial treatment program history.

### Life Extension of the Asset - Projected General Linear Model

Poles in pole inspection and remediation programs experience an average 28 year or ~60% increase in lifespan



Reject rates were modeled using a best fit general linear model based on decay rates for poles ages 0 to 50



## Other Third Party Studies on Life Extension

A 2012 Quanta Technology study on wood pole service life calculated the average expected lifetime of a wooden utility pole with an inspection and treatment program at **96 years**. An earlier 2008 report from the North American Wood Pole Council authored by J.J. Morrell based on a review of national survey data reported by utility companies with inspection and treatment programs noted that using a 0.5% replacement rate “the average pole service life would easily reach **80 years** in many areas of the country.”

## FERC Treatment and Accounting Guidelines

FERC Electric Plant Instructions under C.F.R., Title 18, Part 101, Instruction 10.C. (1) – Additions and Retirements to Electric Plant states that costs of minor items of property added to the plant may be capitalized if a **substantial addition or betterment results**. Along with improving the quality or quantity of an asset's output, a substantial addition may be accomplished by extending the life of the asset beyond its expected life. This is the main premise behind the assertion that pole treatment qualifies as a minor item of property and capital funding is not only appropriate but the more accurate way to classify these costs.

An additional test for betterment is whether the expenditure reduces the operating cost of the asset. A secondary case can be made that investments in remedial treatment result in reduced operating costs for the T & D system overall by reducing the number of required pole change-outs over time.

When referencing the FERC Uniform System of Accounts for guidance, companies often refer to Section 593, Maintenance of overhead lines, item j. which denotes “shaving, cutting rot, or treating poles or crossarms in use or salvaged for reuse” as the basis for classifying pole treatment as a maintenance item. It should be noted these original FERC standards were set up in the early 1960's before long-term life cycle data was available to definitively prove remedial treatments extended pole life.

There are two recent rulings from FERC on questions of capitalization which are also relevant to the discussion on pole treatments. The first is their approval of Novinium, Inc.'s 2008 request that its public utility clients account for the cost of installing their brand of injection rehabilitation products for underground residential distribution (URD) cable as an addition to electric plant, i.e. capital expenditure. The specific wording of the approval reads “a company may capitalize the cost of installing injection rehabilitation products provided that the product is used by the company to extend the useful life of its segments of URD cables beyond their original estimated useful lives.”

The second and more recent ruling involves the approval of an accounting petition filed by Waverly Light and Power allowing utilities to capitalize all costs incurred to retro-fill a (still serviceable) substation transformer with a new bio-based dielectric coolant from Cooper Power Systems. In its final 2011 order, FERC affirmed the fluid qualified “as a minor item of property that did not previously exist provided that a substantial addition results from its use.”

It should be noted that both of these rulings involve a one-time product application to realize the expected life extension benefits vs. the multiple treatment applications required for long-term pole life extension. There are several key points to make on this topic:

1. Poles, like other long-lived assets, require expenditures to repair, maintain or improve them over their lifetimes.
2. The application of even one remedial treatment has documented life extension benefits even if no subsequent treatments are applied.
3. The application of a remedial preservative treatment to a pole once every 8–15 years, if it clearly qualifies as a betterment, should not be considered a “recurring or routine maintenance expense.”

In the absence of a similar definitive ruling from FERC regarding pole treatment or any “bright-line rule or test” more clearly defining a standard for decision-making, there is a need for a more qualitative “balancing test” incorporating the consideration of all the currently-known facts and circumstances.

Specifically with regard to the key principle of betterment, recently updated IRS regulations which include capitalization rules for tangible personal property (TD 9636, 9/19/13) no longer phrase the betterment test in terms of expenditures that “result” in a betterment. Instead, the rule now states that capitalization is required for amounts that are “reasonably expected” to materially increase one of the qualifying factors previously referenced—improving the quality or quantity of the asset's output, increasing the asset's useful life over that which was originally estimated, or reducing the costs associated with operating the asset.

The prevailing argument for applying this same overall logic and approach for wood poles is the magnitude of the hard statistical evidence now available supporting treatment for life extension and understanding this is not done to help achieve expected service life, but to extend the useful life and results in a substantial addition or betterment. In our analysis the concept of original estimated service life is taken even further by calculating actual average service life to lend further weight to the evidence. Pole treatment provides a long-term benefit and should more

accurately be considered a capital expenditure, especially when incorporating a standard of reasonableness as part of the decision-making process.

Another area for review and discussion involves the relatively low cost of the treatment expense and whether or not this is large enough to be considered a material addition to the asset account. While the expense for an individual pole might not be considered material, we believe the total annual treatment expense for 10% of the pole plant as part of a cyclical inspection program would certainly be large enough to qualify, especially in the context of distribution poles being considered a “mass asset” account where additions are not tracked at the individual pole level.

It should be noted this also has implications for the depreciation calculation used by utilities and how this life extension impact may justify extending the book depreciable life and reduce the annual depreciation expense. This evaluation should be undertaken at the discretion of the individual utility.

## Summary

Long-term system performance data now available supports the capitalization of pole treatment costs as a minor unit of property due to the resulting substantial addition or betterment it provides to the overall wood pole plant. Utilities can accrue financial benefits to both rate payers and shareholders by lowering O & M expenses over time and recovering pole treatment costs through longer-term capital recovery mechanisms. Short-term budget challenges often negatively impact potential long-term program benefits and can result in sub-optimal decisions by utility operating managers. Funding part of the cost for an effective pole inspection and treatment program with capital may enable utilities to stay on their targeted inspection cycle, or move closer to the cyclical inspection program recommended for their decay zone and pole plant characteristics. The goal is to optimize program costs vs. benefits and reduce the downstream impact of having to replace large numbers of poles that no longer meet NESC requirements to remain in service.

## About the Authors

**Nelson Bingel** has 30 years of industry experience focused around structural issues related to overhead lines. He received a BSME degree from Purdue University and serves on several IEEE technical committees for overhead lines. Nelson is also Chairman of Strength & Loading in the NESC and Chairman of the ASC O5 committee which develops specifications for new wood poles. In his current role as Vice President - Product Strategy, Nelson oversees research and development of improved structure inspection processes, preservatives and restoration systems.

**David Bonk** is Vice-President - Industry Affairs for Osmose Utilities Services, Inc. He received his undergraduate degree in Business Administration from the University of Florida, and an MBA from the Florida Institute of Technology. David spent over 20 years with Florida Power Corporation/Progress Energy Florida, now Duke Energy, in a variety of senior leadership positions dealing with T & D Engineering & Operations, Customer Service, and Energy Efficiency/Demand-Side Management. In his current role, David is responsible for regulatory affairs, strategic business relationships with key industry organizations and affiliates, and monitoring industry trends and best practices to support Osmose's business development efforts nationally.



**Comparison of Service Life for Electric Plant Assets by Centrally Assessed Taxpayers**

Average Service Life 2013/Q4					
Account No.	SoCal Ed	Sierra Pacific	Nevada Power	Idaho Power	Median Service Life
(2012)					
<b>Steam Production</b>					
310 Land and Land Rights				75	75
311 Structure and Improvements	45	125	75	100	87.5
312 Boiler Plant Equipment	45	60			52.5
312.1 Ash handling equipment				60	60
312.2 Boiler Feed System				60	60
312.3 Boiler plant cranes, hoists				25	25
314 Turbogenerator Units	45	70	80	45	57.5
315 Accessory Electric Equipment	45	60	75	60	60
316 Misc Power Plant Equipment	45	50	40	45	45
<b>Transmission Plant</b>					
350 Land and Land Rights	60	70	65	70	67.5
352 Structures and Improvements	55	55	60	65	57.5
353 Station Equipment	40	65	60	50	55
354 Towers and Fixtures	65	65	60	65	65
355 Poles and Fixtures	50	70	45	60	55
356 Overhead Conductors & Devices	50	65	55	65	60
357 Underground Conduit	55	60	55		55
358 Underground conductors & devices	40	50	45		45
359 Roads and Trails	60	70	60	65	62.5
<b>Distribution Plant</b>					
360 Land and Land Rights	60	65	65	30	62.5
361 Structures and Improvements	40	55	50	65	52.5
362 Station Equipment	45	55	60	50	52.5
364 Poles, Towers & Fixtures	45	65	50	44	47.5
365 Overhead Conductors & Devices	45	55	60	45	50
366 Underground Conduit	55	65	60	60	60
367 Underground Conductors & Devices	40	65	40	46	43
368 Line Transformers	30	50	38	35	36.5
369 Services	40	60	45	40	42.5
370 Meters	20	30	35	22	26
372 Leased Property on customers' premises			30		30
373 Street Lighting and signal systems	40	50	35	30	37.5
<b>General</b>					
303 Misc Intangible Plant		8			8
389 Land and Land Rights	60	65	65		65
390 Structures and Improvements	40	57	45	55	50
391 Office Furniture and Equipment	10				10
391.1 Bookcases and shelves	10	20	20	20	20
391.2 Desks, chairs and desk equipment	10	5	5	5	5
392.4 Transportation Equipment	7	14	9	12	10.5
393 Stores Equipment	20	20	20	25	20
394.6 Tools, Shop and Garage Equipment	10	25	25	20	22.5
395 Lab Equipment	15	15	15	20	15
397 Communication Equipment	17	15	15	15	15
398 Miscellaneous	20	20	15	15	17.5

## Special Research Topic Report on Current Practice in Utility Distribution Poles and Light Poles

Adam Crosby

Date 5/05/11

### 1.0 Objective

The objective of this report is to present a summary of the current practice of the structural design of utility distribution poles and light poles, including the poles and foundations. This summary includes design and safety standards and codes, material specification, material selection, foundation design, design liability, and maintenance.

Two common genres of poles are discussed in this report. The first genre is utility poles. Utility poles are grouped into two kinds – utility transmission and utility distribution. The second genre includes poles for lighting, traffic, homeland security, and intelligent traffic structures. The two genres of poles are analyzed and designed by the same structural principles, but they differ in governing codes and common industry practice. This report focuses on poles for utility distribution and lighting. Because of their differences, they are treated as two separate topics in this report. The first section of the report addresses utility distribution poles and the second section addresses poles used for lighting.

### 1.1 Utility Poles and Structures

Utility poles often support wires and other components for many utilities such as electric power,



*Figure 1: Transmission Structure (Crosby, 2011)*

telecommunications, cable television, and fiber optic. Transmission lines typically carry the electric power from the source to substations where distribution lines branch off to supply the surrounding businesses and homes with power. Figure 1 shows a typical transmission structure. In some cases there is difficulty in making a distinction between utility transmission lines and utility distribution lines. Distribution lines can best be distinguished from transmission lines by their smaller rights-of-way. In addition to having taller poles and structures, a transmission line is accompanied by rights-of-way ranging from 75-200 feet and voltages around or above 69 kV. (RUS

Bulletin 1724E-20). Regarding utility poles, this report focuses on distribution. See Figure 4 for a typical distribution pole.

### 1.2 Lighting, Traffic, and Homeland Security

From the genre of poles including lighting, traffic, and homeland security, this report focuses only on lighting. Light poles are typically freestanding poles with light fixtures at the top. Figure 2a shows a typical light pole.



*Figure 2: a) Light Pole, b) Traffic Mast Arm Pole (a and b from [www.valmont.com](http://www.valmont.com))*

Traffic poles include those supporting traffic signals and signs as shown in Figure 2b.

Types of homeland security and intelligent traffic structures are message signs, surveillance cameras, and traffic sensors. See Figure 3 for examples.



Figure 3: a) Message Sign, b) Surveillance Pole, c) Surveillance Pole with solar panels (a, b, and c from [www.valmont.com](http://www.valmont.com))

## 2.0 Utility Distribution Poles

Utility distribution poles, sometimes called power poles or telephone poles, are components in distribution lines. Other components include various utility wires spanning from poles to pole, guy wires, transformers and other equipment. Figure 4 shows a typical wood distribution pole.

### 2.1 Types of Utility Companies

Four types of utility companies are involved in the ownership, design, installation, and maintenance of distribution lines:

1. Investor Owned Utility (IOU) such as the Southern Company which includes Georgia Power.
2. Electric Membership Cooperatives (EMC)
3. Municipalities- Cities or counties providing electricity distribution.
4. Telecommunication Companies – AT&T, Verizon, Sprint, etc.



Figure 4 Typical Wood Distribution Pole (Bingel, 2011)

Figure 5 shows the assigned service areas for Georgia Power, Electric Membership Cooperatives, and Municipalities. Note that very few poles are owned, designed, or installed by telecommunication utility companies.

#### 2.1.1 Investor Owned Utilities

Investor owned utilities are a type of utility company owned by private investors for profit. Currently the only investor owned utility in Georgia is The Southern Company, which includes Georgia Power. Historically Georgia Power has supplied over 50% of the residential, commercial, and industrial customers and ([www.gefa.org](http://www.gefa.org)).

## 2.1.2 Electric cooperatives

Forty-three electric cooperatives, also known as electric membership corporations, coops, or EMCs service 73% of the land area of Georgia. These member-owned utility companies serve a little less than 50% of Georgia's residential customers and about 13% of Georgia's commercial and industrial customers combined. See Figure 5 for a map of EMC service.

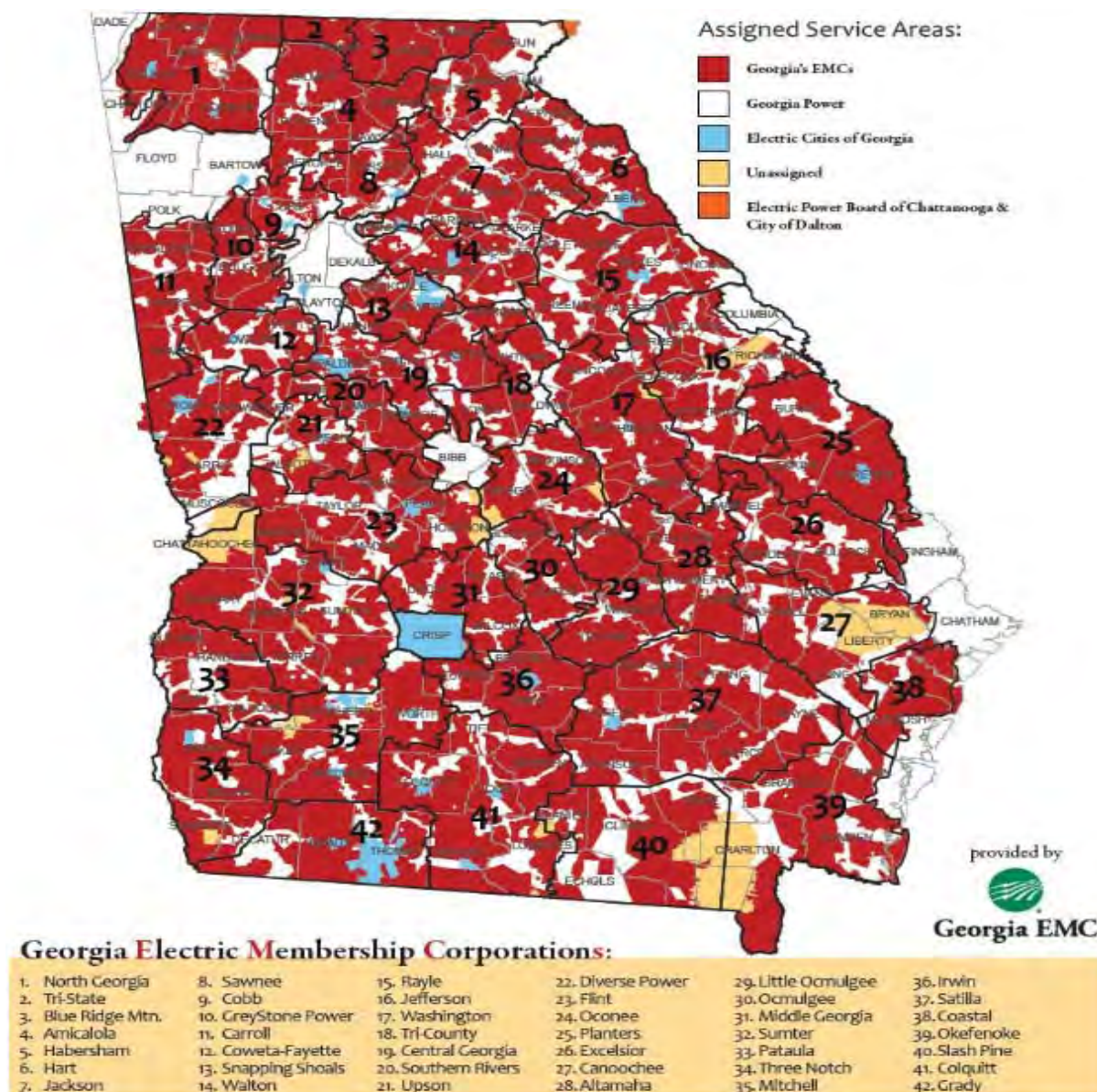


Figure 5: Assigned service areas by utility company type ([www.georgiaemc.com](http://www.georgiaemc.com))

Most electric cooperatives receive funding in the form of loans from the Rural Utilities Service (RUS). Because of this, the borrowers (EMCs) are required to adhere to the Rural Utilities Service guidelines in addition to the governing codes.



### 2.1.3 Municipalities

In the early 1900's Georgia Power, then called Georgia Railway, was not able to build distribution lines. Towns would build coal fired or oil powered power plants to supply their area with electricity and longer power lines with no nearby towns were owned and operated by electric cooperatives. In Georgia, there are currently (2011) 52 electric cities – municipalities that own and operate their own electric distribution systems. The number of electric cities in Georgia remains virtually constant. It would be difficult for a city such as Macon, which is not an electric city, to become one. A city would have to buy the existing electric distribution system from Georgia Power. Because of money and politics, it is unlikely that Georgia Power would make this transaction. The same reasons keep electric cities in the electricity business. Figure 6 shows all 52 of these electric cities.

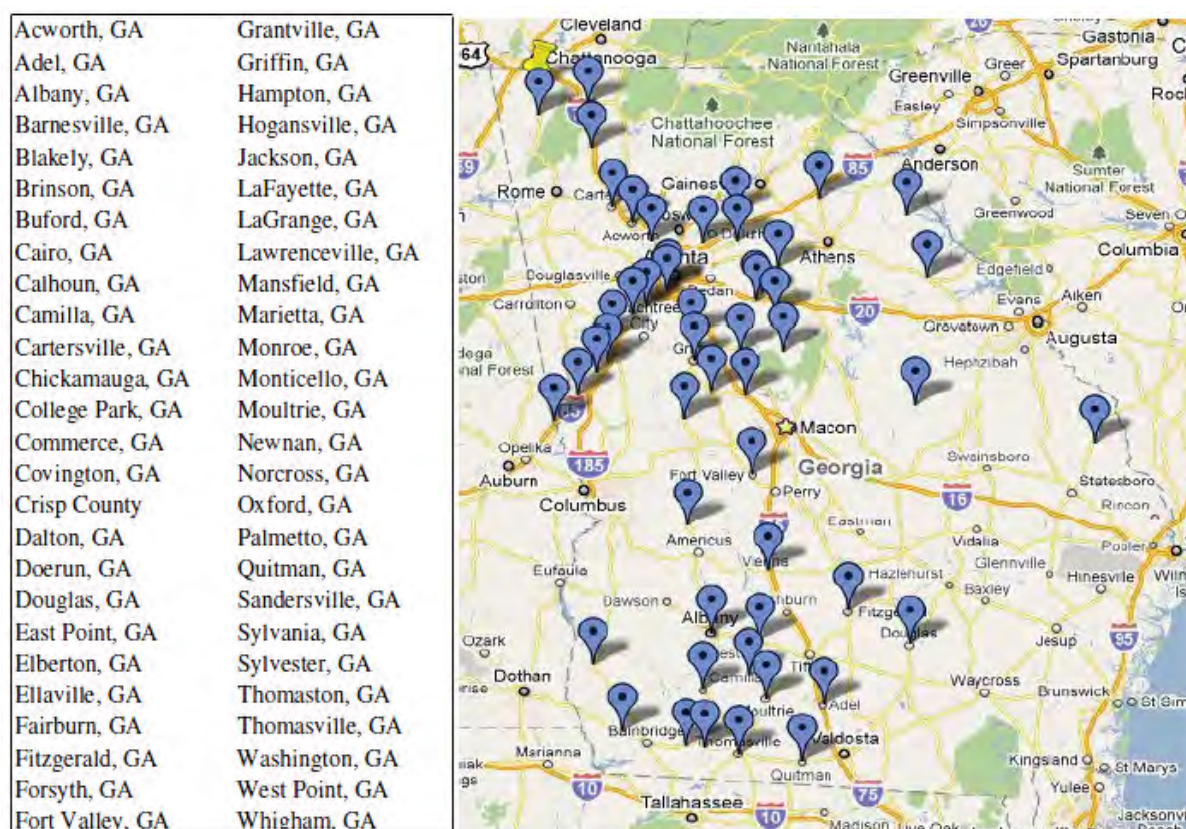


Figure 6 Map of Municipalities providing their own power (A. Crosby and Google Maps, 2011)

While some of these cities have large enough engineering departments to design most or all of their own distribution poles, the majority rely on private consulting engineers or an organization called Electrical Cities of Georgia (ECG). ECG is a not for profit organization that provides engineering services and safety training. Currently, almost all of the 52 electric cities subscribe to Electrical Cities of Georgia's training, engineering services, or both. The majority of these subscribe to ECG's engineering services to design some or all of their distribution lines.

### 2.1.4 Telecommunications

A very small percentage of the utility distribution poles in Georgia are owned, designed, and maintained by telecommunication companies like AT&T, Verizon, Sprint, and Cox. When a utility pole carries only telephone line, the telecom company most likely owns and operates it. However, in most cases, a Telecom company wants to add their utility lines and equipment to an existing utility pole owned by a power company. Sometimes power companies will require the telecom company to check the design to ensure adding the extra components will not cause the pole to be under-designed.

## 2.2 Standards for design of distribution lines

Any utility company, whether it is investor owned, cooperative, municipal, or telecommunications, will probably have its own way to design distribution lines. While there are differences from company to company, the design methods will likely be similar because they have been built from the same standards. There are two typical standards for distribution pole design – National Electrical Safety Code (NESC) and the American National Standards Institute (ANSI O5.1). There are additional guidelines for Electric Cooperatives imposed by the Rural Utilities Service.

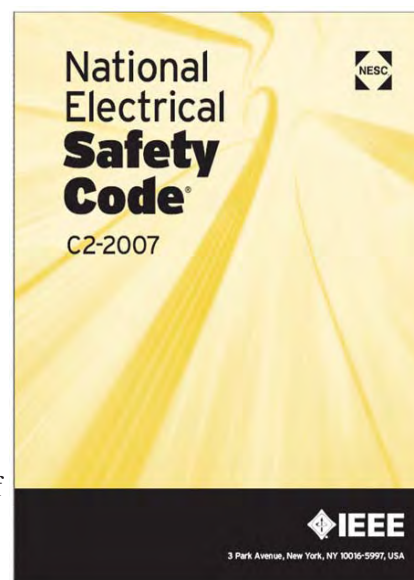
### 2.2.1 National Electric Safety Code (NESC)

The National Electric Safety Code is a standard containing minimum safety requirements for distribution lines and for distribution poles of any material. It specifies loading criteria such as wind, ice, loading factors, etc. The NESC clearly states that it is not a design guide or a design code but merely a set of safety requirements to be strictly followed.

The National Electric Safety Code specifies minimum required loading for pole design. Among other factors, the loading depends on the grade of construction of a pole. The grades are B, C and N, where B is the most stringent design and N is the least. Grade B includes poles located on limited access high-ways (such as interstates), railroad tracks, and navigable waterways requiring waterway crossing permits. Probably over 90% of the poles in Georgia are considered to have a grade of construction of C.

The horizontal and vertical loading from various combinations of ice and wind on poles, wires (conductors), transformers and other components are specified in this code. The worse probable effect of ice and wind loading is meant to be captured by the rules in the National Electric Safety Code.

The NESC references the American Society of Civil Engineers (ASCE7) for environmental loading information such as ice and wind loads. In regards to wood, the National Electrical Safety Code references the ANSI O5.1 for dimensions, tolerances, grades of materials and the like. While the National Electric Safety Code specifies loads for analysis, the American National Standards Institute O5.1 establishes the capacity of the poles.



*Figure 7: National Electrical Safety Code (Bingel, 2011)*



### 2.2.2 American National Standards Institute (ANSI O5.1):

The ANSI O5.1 lists minimum pole dimensions for each class of pole. The classes are tabulated in Figure 8a from largest to smallest. ANSI O5.1.2008 Table 8 for Southern Pine or Douglas Fir (recreated in Figure 8b) shows that a Class 5 pole has a minimum top circumference of 19 inches, and the circumference 6 feet from the butt ranges from 23-34 inches based on total pole lengths from 20-50 feet, respectively. The same table shows that a Class 1 pole is required to have a minimum top circumference of 27 inches, and the minimum circumference 6 feet from the butt varies from 31-63.5 inches with respect to total pole lengths ranging 20-125 feet. Usually a pole's height and class are abbreviated as follows: "35-6" is a 35 foot long, class 6 pole.

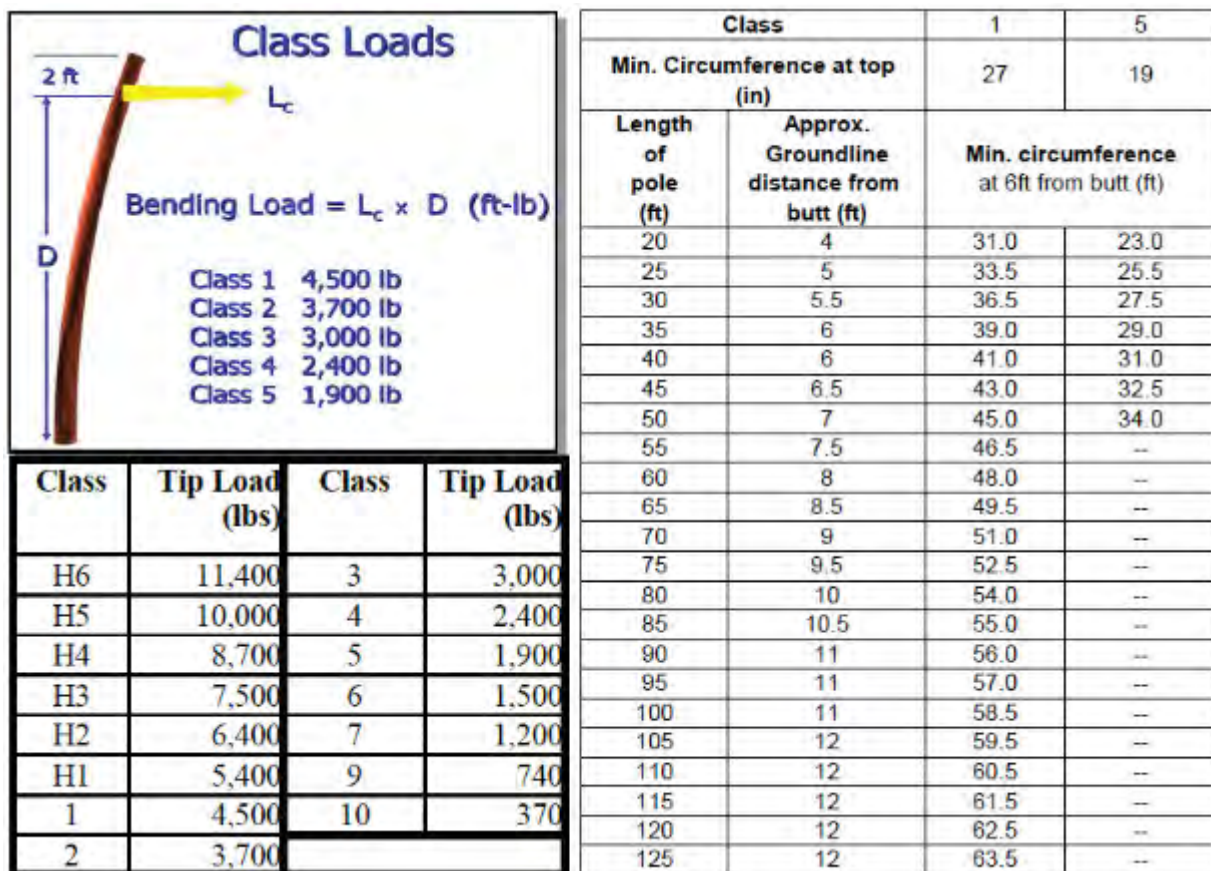


Figure 8: a) Class Load for Wooden Poles per ANSI O5.1 (Bingel, 2011), b) ANSI O5.1.2008 Table 8 for Southern Pine or Douglas Fir

Pole classes are defined so that poles of different species are approximately equal in load-carrying capacity (ANSI O5.1 2008, Annex B). A pole of a species of wood with lower fiber strength would require larger dimensions to be considered the same class pole. For instance, a Class 3 Western Red Cedar (6000 psi fiber strength) has a larger circumference than a Class 3 Southern Pine (8000 psi fiber strength) of the same length. The dimensions in Tables 3 through 10 of ANSI O5.1 are calculated such that the groundline stresses for a given class do not exceed the fiber strength of the wood. The groundline stress is calculated by applying a horizontal load tip load, 2 feet from the top of the pole to simulate the

force transferred from the wires due to wind load. There is a different tip load for each class of pole as shown in Figure 8a.

### 2.2.3 Rural Utilities Service guidelines

In addition to governing standards (National Electric Safety Code and American National Standards Institute O5.1), Electric Cooperatives must comply with the Rural Utilities Service guidelines. These guidelines specify acceptable pole and component materials, pole embedment, treatment, and inspection schedules. In addition to wood, Rural Utilities Service also specifies requirements for use of concrete, steel, and fiber reinforced polymer poles. The Rural Utilities Service is more stringent than the National Electric Safety Code, thus a design per RUS guidelines may be more conservative than a design by utility company which does not have the extra guidelines.

## 2.3 Types of utility distribution poles

Three types of utility poles are used on typical distribution lines:

1) Tangent poles

2) Guyed poles

3) Self-supporting poles

### 2.3.1 Tangent poles

Tangent poles (almost always wood) can be identified as the poles that do not have down guy wires and are in a straight line with other poles. Tangent poles act as simple cantilever beams and/or slender columns. According to Rural Utilities Service construction standards, tangent poles may have a maximum line angle of 5 degrees (RUS Bulletin 1724E-150). Because tangent poles are not to be located at a sharp angle turn in the line they typically resist only the forces due to wind, ice, gravity, and the forces from unbalanced tension in the conductors or other utility wires. Tangent poles do not typically have any back fill material other than the native soil.

### 2.3.2 Guyed poles

In addition to horizontal forces and their resulting moments caused by wind and vertical forces from dead load, guyed poles must resist loads in both horizontal and vertical directions due to guywires. Guying forces are the biggest contributors to vertical forces in guyed poles. Like tangent poles, guyed poles do not make use of backfill or concrete to transfer forces to the soil.

### 2.3.3 Self-supporting poles

Self-supporting poles, typically made of concrete or steel, are used where tangent poles and guyed poles will not work. For instance, self-supporting poles may be located at corners of distribution lines where guy wires cannot be used, where sidewalks prevent guying, where a property owner will not allow guying, where an obstruction prevents guying, or many other reasons. Self-supporting poles are not common on distribution lines, but are required where there is no guying option.

Another instance when self-supporting poles are used in lieu of tangent or guyed poles is where the grade of construction increases from the typical grade C to the more stringent grade B – such as crossing of distribution lines. The higher strength is required because of the increase in grade of construction may make a self-supporting pole the most cost effective option.

In any of these cases, the field technician or senior designer may recognize that the pole is reaching the limitations of a typical wood pole and decide to have a self-supporting pole designed. Almost all self-



Figure 9: a)Tangent pole (Bingel, 2011), b) Guyed pole (Crosby, 2011), c)Self-supporting concrete distribution pole (Crosby, 2011)

supporting poles are designed by pole manufactures. Design criteria are given to the manufacturers and they design the poles. The designer of responsible charge (i.e. the utility company) typically designs the foundation for the pole, or contracts the design out - which may involve a geotechnical soil investigation.

According to the Rural Utilities Service guidelines, unguyed poles may have a maximum pole line angle of 5 degrees. There are many unguyed wood poles that have an between 0 and 5 degrees. These may also be called self-supporting poles.

## 2.4 Distribution pole foundations

Typical tangent poles and guyed poles have setting depths based on a rule of thumb: 10% of the total pole length plus 2 feet. That is, if the pole is 40 feet long, approximately 6 feet is buried while 34 feet is above ground. ANSI O5.1 tables 5 through 8 list the “Approximate groundline distances from butt” (in feet) for varying lengths of poles. These distances basically follow the '10% plus 2 feet' rule. The ANSI foot note explains that these values are not intended to be recommended embedment depths. Even so, pole designers have used these values for embedment depth as an industry standard for tangent and guyed poles in the United States, regardless of soil conditions, wind speed, pole diameter, span lengths between poles, guying forces, gravity forces, and other factors.

This rule of thumb, for the most part, is working. However, engineering methods exist for such foundation types. For instance, AASHTO DTS has a nomograph design aid based on the equivalent horizontal load, allowable soil bearing pressure, and width of pole at embedment.

Also, The International Building Code has a similar design aid in the form of an equation (International Building Code 2006, Eqns 18-1, 18-2, or 18-3 based on level of constraint at ground line). Equation 18-1, the unconstrained case (most common, most conservative) involves variables such as width of pole at embedment, equivalent lateral force on pole, lateral bearing resistance of soil, and lateral sliding resistance of soil. In the absence of a soil investigation (which is not feasible for utility distribution poles), these soil characteristics may be assumed to be minimum values from IBC 2006, Table 1804.2 (Figure 10).

The vertical loads from guying and dead weight may be designed to be resisted by the assumed minimum allowable foundation pressure in the same table. Thus, only the class of soil material needs known to design the foundation with the International Building Code Equation. If this classification is unclear to pole technician in the field, the worst case may be assumed.

In addition to these methods, there are more sophisticated engineering methods for modeling soils. In the design of tangent and guyed poles, a simple equation or nomograph seems more feasible than a detailed analysis.

Class of Materials	Allowable Foundation Pressure (psf)	Lateral Bearing Pressure (psf/ft below natural grade)	Lateral Sliding	
			Coeff. Of Friction	Resistance (psf)
Crystalline Bedrock	12000	1200	0.7	--
Sedimentary and foliated rock	4000	400	0.35	--
Sandy gravel and/or gravel	3000	200	0.35	--
Sand, silty sand, clayey sand, silty gravel and clayey gravel	2000	150	0.25	--
Clay, sandy clay, silty clay, clayey silt, and sandy silt	1500	100	--	130

Figure 10: International Building Code 2006 Minimum Soil Pressure Values

## 2.5 Design of spans

The distance between poles (span) depends on several factors. In design of a new distribution line, first the designer takes note of the control points – locations that must have a pole. These include road intersections, point of tangency of a road, near a house or building that needs power, and many others. Then the designer fills in the other poles between these control points based on maximum allowable span of the wire.

On a long straight segment of distribution line, the span is often times controlled by the span of the wires, not the strength of the pole. That is, spans are determined based on clearances between wires, clearances above ground topography, etc.

## 2.6 Common practice

Most utility poles are not designed new each time from the National Electric Safety Code and ANSI 05.1, but rather a pole is selected by a field technician from the company's customized handbook given a maximum span, pole height, electrical conductor wire information, and electrical accessories. An experienced field technician will often know these company specific tables and charts well.



For non-typical pole design applications, the field technician may need to evaluate the pole with software. Georgia Power field technicians have a copy of PoleForman software at their disposal. This software is one of the most commonly used for distribution pole design. If the pole is abnormally tall or has an especially large transformer, the technician will design it using the PoleForman software. In difficult design cases, the field technicians refer to their senior designers. Of the field technicians (also called field engineers), few are professional engineers – a certification that is more common among senior engineers.

Rules of thumb will vary between utility companies. A simple example of a utility company's rule of thumb is as follows:

40 feet Class 5

45 feet Class 4

50 feet Class 3

## 2.7 Commonly used distribution pole design software

Some of the most common software for designing common wood utility distribution poles are PoleForman with SagLine, O-Calc, and SPIDACalc. These three programs have a library of common poles, conductors, crossarms, guys and anchors. They perform analysis based on the NESC including wind and ice loads. PoleForman is the most commonly used and is advertized for its ease of use, but lacks some functionality that the other programs provide. In addition to typical pole analysis and design, O-Calc and SPIDACalc have features that Pole Forman does not. For instance, O-Calc has the ability to consider imperfections (like rot) of poles in the design of existing poles.

## 2.8 Materials used in distribution poles

Utility distribution poles are made of wood, steel, concrete, fiber reinforced polymers, or laminated wood.

### 2.8.1 Wood distribution poles

Over 90% of Georgia's distribution poles are made of wood. Southern pine is the most common in the southeastern United States, including Georgia. Douglas fir is mainly used west of the Rocky Mountains, but is sometimes used in the southeast when taller poles are needed. This is because southern pine is not typically harvested in lengths greater than 60 ft. Wood is the most common because it is generally the most cost effective and functional material. When codes, cosmetics, or conditions are an influence factor, the engineer may use a material other than wood.

### 2.8.2 Steel distribution poles

Depending on cost of steel versus wood, steel poles can be price competitively with wood poles. While steel poles are subject to some corrosion, it stands to reason that there would be less maintenance required than on wood poles. Poles made of steel, fiberglass, concrete and laminated lumber do not fit with the common mode of operation. That is, these poles are not nearly as easy to climb as traditional wood poles. Steel poles are



*Figure 11: Steel Distribution Pole (www.unionmetal.com)*

most often used as self-supporting poles. A designer would supply the pole manufacturer the forces, moments, and design criteria for the manufacturer to design the pole itself. Steel poles are sometimes fastened to a circular reinforced concrete pier by anchor bolts. Other times they are simply backfilled with gravel.

### 2.8.3 Concrete distribution poles

Concrete poles are most commonly used in distribution lines as self-supporting poles, but are sometimes guyed. There is very little maintenance for concrete poles. Concrete may be very costly to transport depending on the distance from the concrete plant to the installation site.

Class	Tip Load (lbs)	Class	Tip Load (lbs)
C	1,200	J	4,500
D	1,500	K	5,400
E	1,900	L	6,400
F	2,400	M	7,500
G	3,000	N	8,700
H	3,700	O	10,000

Concrete Poles can may be static cast or spun cast. Spun cast is different than static cast because it is spun while curing to consolidate the concrete better, giving more compressive strength to the concrete.

*Figure 12 Concrete Pole Classes*

Concrete poles have different classification than wood poles. While wood poles use a numbering system, concrete poles use the alphabet. If a utility company tries a large wood pole in PoleForman or similar software, the company will often ask the concrete manufacture to design an equivalent pole for comparison of cost. For instance, a class 2 wood pole, with a 3700 lb tip load may be considered equivalent to a Class H concrete pole. It is also possible to use a ratio of the material strength reduction factors to get a Class G concrete pole, for instance.

### 2.8.4 Fiber reinforced polymer distribution poles

Fiber reinforced polymer (FRP or fiberglass) poles are very light and thus can be carried by hand to remote locations where a vehicle cannot go – such as the side of a mountain. Fiberglass poles have few maintenance issues, but because fiberglass not a commonly used material, it requires installers who have experience with fiberglass. Conversely, wood construction is well known.

Currently the Rural Utilities Service requires its borrowers (Electric Cooperatives) to submit for approval to use fiberglass poles. This approval submittal includes calculations, reasons for using fiberglass, cost analysis, etc. Currently (2011), RUS is developing a guide specification for use of fiberglass distribution poles which borrowers could use to purchase and use fiberglass poles without Rural Utilities Service approval. (RUS, July 2008)

### 2.8.5 Laminated wood distribution poles

Laminated wood poles, not typically used in Georgia, are sometimes used as self-supporting poles where wood poles are not strong enough to withstand the loads. As with self-supporting steel poles, the utility company designer would give the design criteria to the laminated wood pole manufacture (i.e. E-LAM) to design the pole. These poles are typically set deeper than ordinary wood poles, and the holes are backfilled with gravel.



## 2.9 Installation of poles

If a pole is installed deeper than it was designed, the circumference is less than it was designed for. Thus the pole is not as strong as the designer intended. One can usually tell when a pole is buried too deep because the birthmark of the pole is low to the ground. The birthmark is a descriptive marking of the pole class and material (See figure 13). It should typically be at shoulder level.

## 2.10 Wood pole issues

The main maintenance issue for wood is decay.

Decay at the groundline almost exclusively occurs within a zone from 6 inches above the groundline to 18 inches below. For decay to occur four things must be present: 1. food (the wood pole) 2. oxygen 3. water and 4. a certain temperature range. At 6 inches above the surface not enough oxygen is present to facilitate decay. The moisture that causes decay is wicked from the soil up the pole, but the wicking only occurs up to 18 inches below the soil. Thus the poles remain virtually decay free, above and below this zone. See Figure 14 and 15.

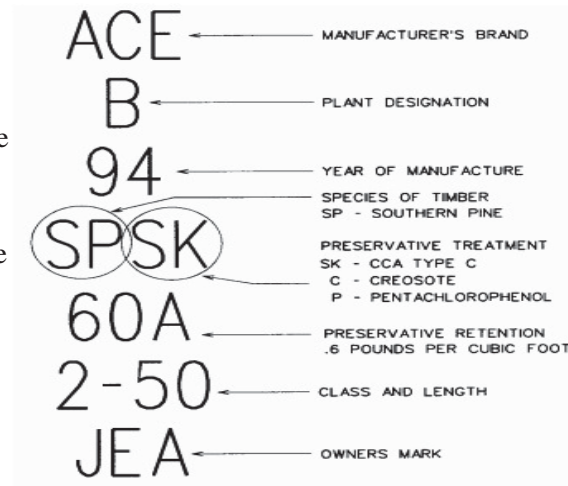


Figure 13: Pole Birthmark ([www.jea.com](http://www.jea.com))

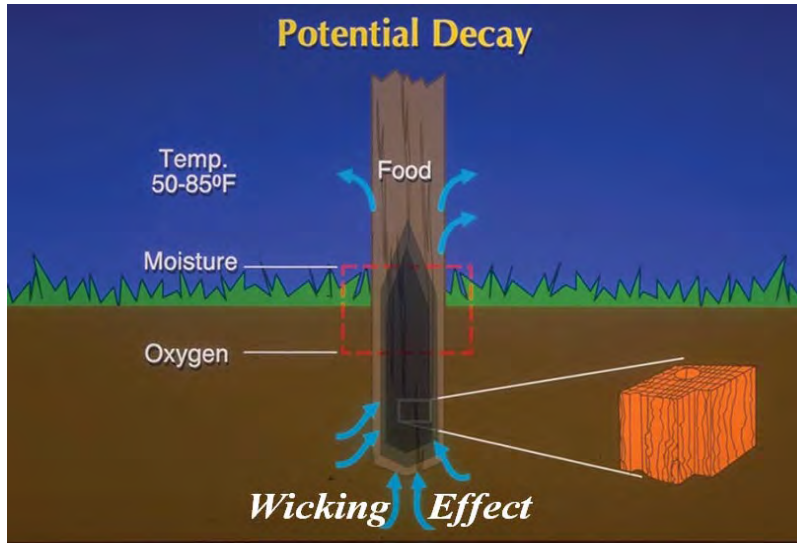


Figure 14 Factors for potential decay in wood poles (Bingel, 2011)

In order to prevent decay, wood poles have historically been pressure treated with oil based chemicals such as creosote and pentachlorophenol (penta). Creosote, which is not allowed in the majority of modern timber, is fading in its use even in distribution poles. Pentachlorophenol is less detrimental to the environment than creosote, even though it is still subject to leaching. Most utility companies in Georgia are exclusively using poles treated with Copper chromium arsenate (CCA), the newest

alternative to these historical treatments. These poles have a green color and they last much longer because this chemical does not leach like the oil based treatments.

## 2.11 Inspection and maintenance of wood poles

Two common modes of failure in wood poles are decay near the ground line and decay at the top of the pole as treatments leach down the pole. Figure 15 shows failure of a pole due to decay in the section of the pole that 18 inches deep below the groundline .



Figure 15 Pole Failure due to Decay in 18 inch decay section (Bingel, 2011)

Utility companies usually inspect a percentage of their poles in a given time period. Companies that are borrowers of RUS money are to follow the suggested pole inspection schedule described in RUS Bulletin 1730B-121. For Georgia, this bulletin recommends that 12.5% of the total poles be inspected each year. The initial inspection is to be within 8-10 years of placement, and the subsequent reinspections are to be every 8 years. Companies that do not subscribe to RUS often follow some sort of inspection schedule. Osmose Utilites, a company that inspects poles for utility companies, reports that there could be a large cost savings if poles were more frequently inspected. If a pole is inspected sooner, it may be repaired

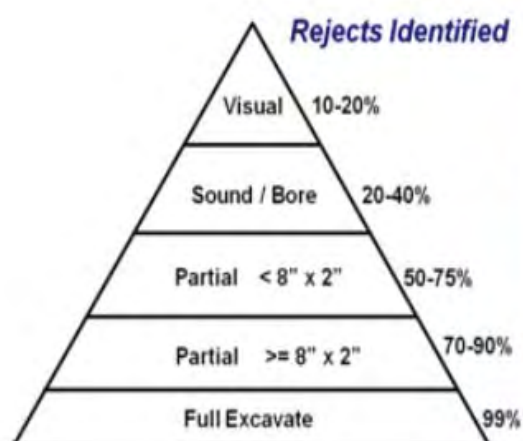


Figure 16: a) Identifying rejects (Bingel, 2011), b) Applying treatment (Bingel, 2011)

and/or retreated with preservative to give it more years of service. RUS Bulletin 1730B-121 also states the importance of periodic inspection and maintenance (Section 7.3 Groundline Treatment):

*“All treated poles eventually lose resistance to decay, and groundline treatment provides an economical extension of their useful life. Experience has shown that groundline decay can be postponed almost indefinitely in cases where periodic inspection and maintenance programs are in effect.”*

A pole is rejected if it is less than approximately 67% of the required strength. Rejects may be identified in a number of ways: visual inspection, striking the pole with a hammer and listening, boring into pole, fully excavating to the 18 inch depth all around the pole, and partially excavating. Figure 16a shows what percentage of rejects is identified with varying levels of investigation. For example, quick visual inspections will identify up to 20% of the poles that are actually rejects. With more extensive investigation a higher percentage of rejects will be discovered.

If a pole is not rejected, it may be retreated with preservative like the paste shown in Figure 16b. If a pole is rejected, it may be strengthened or completely replaced.

### 3.0 Light Poles

There are a wide variety of light pole types including high mast, roadway, residential, area lighting, and sports lighting. These poles are available in many styles and may be decorative or standard.

High mast poles are usually found lighting interstates. These poles are used most often by the Department of Transportation. These are very tall slender poles with fixtures that can be lowered to the ground with a hoist system for maintenance. High mast poles are rarely decorative, but they are very functional as they may light a large area.

Roadway lighting may be used on interstates, highways, and other streets. These are not as tall as high mast poles and may have a standard or decorative style. Valmont Industries groups roadway poles and residential poles into the same type because their uses overlap.

Area lighting is used to light areas like parking lots but may be used in residential areas, parks and similar places. A typical standard (non-decorative) pole may be square or round in cross-section and may be tapered or not.



Figure 17: a) High mast ([www.suryaroshilighting.com](http://www.suryaroshilighting.com)), b) Roadside ([www.valmont.com](http://www.valmont.com)), c) Residential ([www.valmont.com](http://www.valmont.com)), d) Area lighting (A. Crosby), e) Sports lighting ([www.valmont.com](http://www.valmont.com))

### 3.1 Criteria, Standards and Guidelines for Light Pole Design

Light poles may be designed by three different criteria or standards:

- 1) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (AASHTO LTS)
- 2) State specific DOT Standard
- 3) Commercial criteria

The majority of the light poles are designed by the pole manufactures such as Valmont or Lithonia Lighting. Often the manufacturer will be given a specification with design criteria such as design loading or a specific wind speed and code to design by. Other times the pole buyers may simply tell the manufacturer which pole they want. In the former case, several competing manufacturers may bid on a job based on the specifications. When the specification does not specify a code by which to design the poles, such as AASHTO LTS-4, the manufacturer may design by its own criteria - called commercial criteria. In addition to any of these standards, poles may be subject to the specific requirements of the state, county, city or region in which the pole is located.

#### 3.1.1 AASHTO LTS

Approximately every 7 years, the American Association of State Highway and Transportation Officials produces a new edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. This standard, often called AASHTO LTS, has several editions. The latest versions are:

- 1) LTS-3, published in 1994
- 2) LTS-4, published in 2001 and revised in 2003
- 3) LTS-5, published in 2009 and revised in 2010

This design reference is the basic standard for all light pole design. The other design standards are essentially made up of part or all of the AASHTO with some modifications. The Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals is a design standard specifying general requirements, loads, methods of analysis, and material-specific design requirements for light poles and other highway specific structures. AASHTO considers dead, live, ice, and wind loads.

The 2001 LTS and later versions include a very big change in design from previous revisions. Fatigue

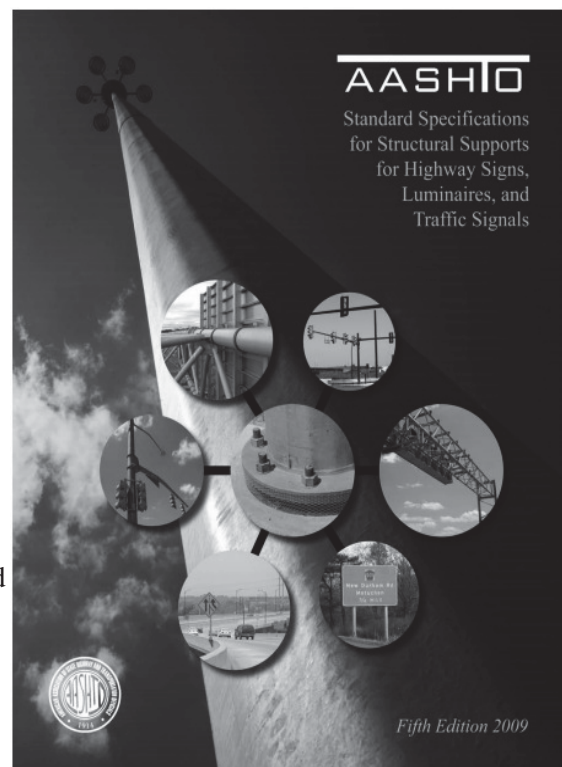


Figure 18: AASHTO LTS-5  
([www.techstreet.com](http://www.techstreet.com))



design due to galloping, vortex shedding, natural wind gust, and truck induced wind gust are to be considered in certain circumstances. Poles and structures designed by this code for fatigue must be assigned a fatigue category I, II or III, ordered from most to least stringent.

### **3.1.2 State specific Department of Transportation standard**

Each State's Department of Transportation has the authority to decide what standard the poles shall be designed by. Almost all Departments of Transportation adopt a version of AASHTO they are most comfortable with and modify it as they choose.

### **3.1.3 Commercial criteria:**

When designing by commercial criteria, manufactures may not design as robustly as an AASHTO LTS standard would require because they are trying to underbid their competitors. For instance, fatigue design which often controls pole design per newer versions of AASHTO LTS would most likely not be taken into account with a design done by commercial criteria. Another way to lighten the design is to design to a safety factor of 1, instead of the larger safety factors required by the AASHTO LTS.

Manufacturers have product literature available for their commonly used poles. It is not uncommon for a pole to be selected from a manufacturer's literature. This literature contains charts for selecting poles that are pre-designed based on the manufacturer's design. Some of this product literature is based on AASHTO LTS design, and others are based on commercial criteria. The poles that are almost exclusively used by the Department of Transportation, such as the high mast poles, are most likely designed per AASHTO LTS. Poles, such as area lighting that may be found in a retail store parking lot, would often be designed per the company's own criteria. Poles are typically selected from manufacturer's product literature by the following procedure (from Manis, p 1):

1. Select the light fixture and obtain its effective projected area (EPA) and weight. The effective projected area is the area that is loaded by the wind. This information is located on the fixture cut sheet.
2. Determine the number of light fixtures and any special mounting methods (arm or bracket) to be installed on the pole. Obtain the effective projected area and weight for any arms or brackets from the corresponding cut sheets.
3. Total the effective projected area and the weights of all fixtures, arms and brackets.
4. Select the design wind speed for the project location from the light pole manufacturer's wind map, which may be based on fastest mile wind speed or 3-second gust wind speed, like current building code.
5. Select a pole and compare the EPA and fixture weights with the allowable EPA and fixture weights for that pole. If the actual effective projected area and fixture weights are less than the allowable EPA and maximum weight listed on the cut sheet, the pole meets the manufacturer's requirements.

SSS Square Straight Steel Poles

TECHNICAL INFORMATION													
Catalog Number	Nominal shaft length (feet)	Pole Shaft Size (in x ft)	Wall Thickness (inches)	Gauge	EPA (ft²) with 1.3 gust						Bolt Circle (inches)	Bolt Size (in. x in. x in.)	Approximate ship weight (pounds)
					80 mph	Max. weight	90 mph	Max. weight	100 mph	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.125	11	30.6	765	23.8	595	18.9	473	8--9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.125	11	24.4	610	18.8	470	14.8	370	8--9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.125	11	19.9	498	15.1	378	11.7	293	8--9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.125	11	15.9	398	11.8	295	8.9	223	8--9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.125	11	12.6	315	9.2	230	6.7	168	8--9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.125	11	9.6	240	6.7	167	4.5	150	8--9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.188	7	14.0	350	11.0	275	8.0	200	8--9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.125	11	17.7	443	12.7	343	9.4	235	10--12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.188	7	28.1	703	21.4	535	16.2	405	10--12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.125	11	4.8	150	2.6	100	1.0	50	8--9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.188	7	10.8	270	7.7	188	5.4	135	8--9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.125	11	9.8	245	6.3	157	3.7	150	10--12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.188	7	18.5	463	13.3	333	9.5	238	10--12	1 x 36 x 4	360

Figure 19 Lithonia Lighting- Square Steel Non-Tapered Pole ([www.lithonia.com](http://www.lithonia.com))

While manufacturers have differences in company specific commercial criteria, some poles usually have virtually the same design. Lithonia Lighting and Valmont Structures manufacture some of the same poles with the the same maximum effective projected area and maximum weight. For instance, Lithonia model SSS 20 5C is identical to Valmont's model S500Q200. Both are 4" square diameter non-tapered 20 ft tall, 11 gauge steel poles weighing 185 lbs. (See Figures 19 and 20) For this pole, both manufacturers came to the same design conclusion: the maximum allowable EPA and weight for this pole in a 90 miles per hour wind zone is 12.7 square ft and 343 pounds, respectively. On the other hand, when comparing Lithonia's RTA 39 10J, a tapered aluminum pole, to its identical competitor Valmont's 3808 – 60108T4, Lithonia has smaller allowable effective projected areas (See Appendix). In other words, Lithonia's design is more conservative for this pole. This may be due to a difference in each manufacturer's design criteria and methods.



LOAD AND DIMENSIONAL DATA											
NOMINAL MOUNTING HEIGHT	DESIGN INFORMATION						POLE DIMENSIONS				MODEL NUMBER
	80 MPH w/1.3 GUST		90 MPH w/1.3 GUST		100 MPH w/1.3 GUST		BASE SQUARE OD (IN)	TOP SQUARE OD (IN)	WALL THK (IN)	STRUCTURE WEIGHT <sup>2</sup> (LBS)	
	MAX EPA <sup>1</sup> (SQ FT)	MAX WEIGHT <sup>1</sup> (LBS)	MAX EPA <sup>1</sup> (SQ FT)	MAX WEIGHT <sup>1</sup> (LBS)	MAX EPA <sup>1</sup> (SQ FT)	MAX WEIGHT <sup>1</sup> (LBS)					
10'-0"	30.6	765	23.8	595	18.9	473	4.00	4.00	11	75	S400Q100
12'-0"	24.4	610	18.8	470	14.8	370	4.00	4.00	11	90	S400Q120
14'-0"	19.9	498	15.1	378	11.7	293	4.00	4.00	11	100	S400Q140
16'-0"	15.9	398	11.8	295	8.9	223	4.00	4.00	11	115	S400Q160
18'-0"	12.6	315	9.2	230	6.7	168	4.00	4.00	11	125	S400Q180
20'-0"	9.6	240	6.7	167	4.5	150	4.00	4.00	11	140	S400Q200
	17.7	443	12.7	343	9.4	235	5.00	5.00	11	185	S500Q200
25'-0"	28.1	703	21.4	535	16.2	405	5.00	5.00	7	265	S500W200
	4.8	150	2.6	100	1.0	50	4.00	4.00	11	170	S400Q250
	10.8	270	7.7	188	5.4	135	4.00	4.00	7	245	S400W250
	9.8	245	6.3	157	3.7	150	5.00	5.00	11	225	S500Q250
	18.5	463	13.3	333	9.5	238	5.00	5.00	7	360	S500W250
30'-0"	6.7	168	4.4	110	2.6	65	4.00	4.00	7	291	S400W300
	4.7	150	2.0	50	N/A	N/A	5.00	5.00	11	265	S500Q300
	10.7	267	6.7	167	3.9	100	5.00	5.00	7	380	S500W300
	19.0	475	13.2	330	9.0	225	6.00	6.00	7	520	S600W300
35'-0"	5.9	150	2.5	100	N/A	N/A	5.00	5.00	7	440	S500W350
	12.4	310	7.6	190	4.2	105	6.00	6.00	7	540	S600W350
40'-0"	7.2	180	3.0	75	N/A	N/A	6.00	6.00	7	605	S600W400

Figure 17: Valmont Lighting- Square Steel Non-Tapered Pole

### 3.2 Light Pole Jurisdictions

The jurisdiction the pole is in determines what design methods or standards it will be designed by. A pole may fall in one or more of the following jurisdictions:

- 1) The State DOT
- 2) Municipality
- 3) Private property

#### 3.2.1 The State Department of Transportation

In Georgia, the design of a large number of the poles is the responsibility of the Department of Transportation (DOT). Poles fall in the Department of Transportation's jurisdiction if the department is administering money to design, install, or maintain the pole. This is the case for lighting along all interstates and state routes. Because the Georgia Department of Transportation is required to return a percentage of the gas tax to city street projects, city streets and county roads receive some funding from the Department of Transportation. In these cases, the poles would be designed and installed per GDOT guidelines and standards.

Every state's DOT may be different in their requirements for design of light poles. They have the freedom to choose if they want the poles in their jurisdiction to be designed by a certain edition of AASHTO or a customized standard for that state's Department of Transportation, which is typically a version of the AASHTO LTS with some modifications. In addition, the state Department of transportation may dictate if a pole's foundation is required to be designed (and sealed) by a professional

engineer and whether a geotechnical soil analysis is required. Each state's DOT may also dictate several other factors such as the types of foundations allowed, the pole shape, the pole height, and more.

For example in 2006, the Florida Department of Transportation moved from using the AASHTO 1994 edition to the 2001 edition (LTS-4). Instead of using the windspeed maps in the 2001 AASHTO, Florida used a simplified windspeed map based on American Society of Civil Engineers ASCE7 3-second gust maps. It also opted to not adopt Section 11 of LTS-4 on fatigue design until further studies had been done. If a state has no problems with its poles designed by the earlier versions of the LTS, it has the freedom not to adopt a newer code. Georgia's Department of Transportation is in the process of switching from the AASHTO LTS-3 (1994) to the most current LTS.

Because each state's Department of Transportation is typically staffed with engineers, they may design most of the foundations for the light poles within their jurisdiction. They also perform the majority of the soil testing, when needed.

### **3.2.2 Municipalities**

When no Department of Transportation money is administered to a city lighting project, the poles fall completely in the municipality's jurisdiction. In this case the city, county, or region may choose which standard, if any, the pole shall be designed by. Georgia municipalities typically specify the poles to be designed by Georgia Department of Transportation standards even though the DOT is not involved in any way. However, the municipality may choose for each pole to be designed by any edition of AASHTO or commercial criteria. In addition, they may choose to design for fatigue or not.

The Georgia Department of Transportation often has agreements with municipalities which want interstate lighting in their town to attract business. The DOT will buy the poles and pay construction costs and the local government pays the initial design fees to the illumination engineer and pays for energy costs and maintenance for 50 years.

Municipalities may also choose if pole foundations are required to be professionally engineered and if a geotechnical soil reports are required. Some cities like Alpharetta, GA also require specific styles of light pole to be used.

Some big municipalities may have an engineering staff that designs poles and/or pole foundations.

### **3.2.3 Private Properties**

When a light pole is on private property, such as a retail store or a strip mall, it may fall into any of the three jurisdictions. A light along the road way, for instance, may be in the Department of Transportation's jurisdiction. On the other hand a parking lot light may fall into the municipality's realm of responsibility. The private property developer should check with the Georgia Department of Transportation and municipality, and if neither the municipality nor the Department of Transportation are involved in decision making, the developer should check with the building department to see if there are any guidelines or standards that are required. For instance, a building department may require the developer to have the foundation engineered, have a soil report done, or may limit the types of poles that may be used.

If there are no guidelines or standards, the developer may choose how the pole and foundation are designed. That is, the developer chooses if a pole is designed by AASHTO, State DOT standards, or commercial criteria and may decide whether the pole foundation shall be engineered. This means a situation could arise where a retail store owner may be in full control of the light pole structures put up in his parking lot. Because of the great liability involved, hopefully this store owner would have a contractor with experience in pole installation and would rely on the expertise of the pole manufacturer to select the right pole for the location-based wind load.

### 3.3 Light Pole Materials

Most light poles are made of steel, namely ASTM A595 Grade A or A572 Grade 50, 55, 60, or 65. Aluminum poles, which are more expensive, are usually made of 6063 T6 aluminum. Concrete poles are either spun cast concrete or regular precast concrete. Concrete poles are often shipped in a few pieces and assembled as interlocking pieces on site. Some light poles are made of wood. This would be mostly southern pine in Georgia, just like the utility poles in this report. Fiber reinforced polymers are used sometimes in the United States when it is necessary to transport the poles by hand.

### 3.4 Joint use poles

While this report is segregated into utility distribution poles and light poles, many times these utilities share a pole. Figure 20 shows a wood distribution pole being used to support a light and traffic signals.

### 3.5 Pole Foundations:

The pole manufacturers design light poles and anchor bolts and will usually give base reactions if requested, and they recommend having a professional engineer design the foundation. The responsible party may have an engineer design the pole; others like the Florida Department of Transportation have a typical foundation design for every standard pole. Figure 21 shows a typical metal pole foundation from Florida's Department of Transportation. Florida utilizes a 30 inch diameter auger drilled pier with a reinforcing bar cage in an 8-10 feet deep precast or poured concrete pier. The Georgia Department of Transportation uses a 24" diameter, 6 ft deep, reinforced concrete, auger drilled pier for all poles under 50ft tall.

Most light poles are constructed like the auger drilled foundation in Figure 21, but some light poles are directly embedded. With directly embedded poles the setting depth is usually 10 percent of the total pole length plus 2 feet. This is the same rule of thumb used for tangent or guyed distribution poles. Others, like the Florida Department of Transportation may have other guidelines.

In Georgia, 100-120 ft tall, high mast structures are typically accompanied by a 4 ft diameter, 20 ft deep, auger drilled pier with reinforcing steel.



Figure 20: Wood joint-use pole (Crosby, 2011)

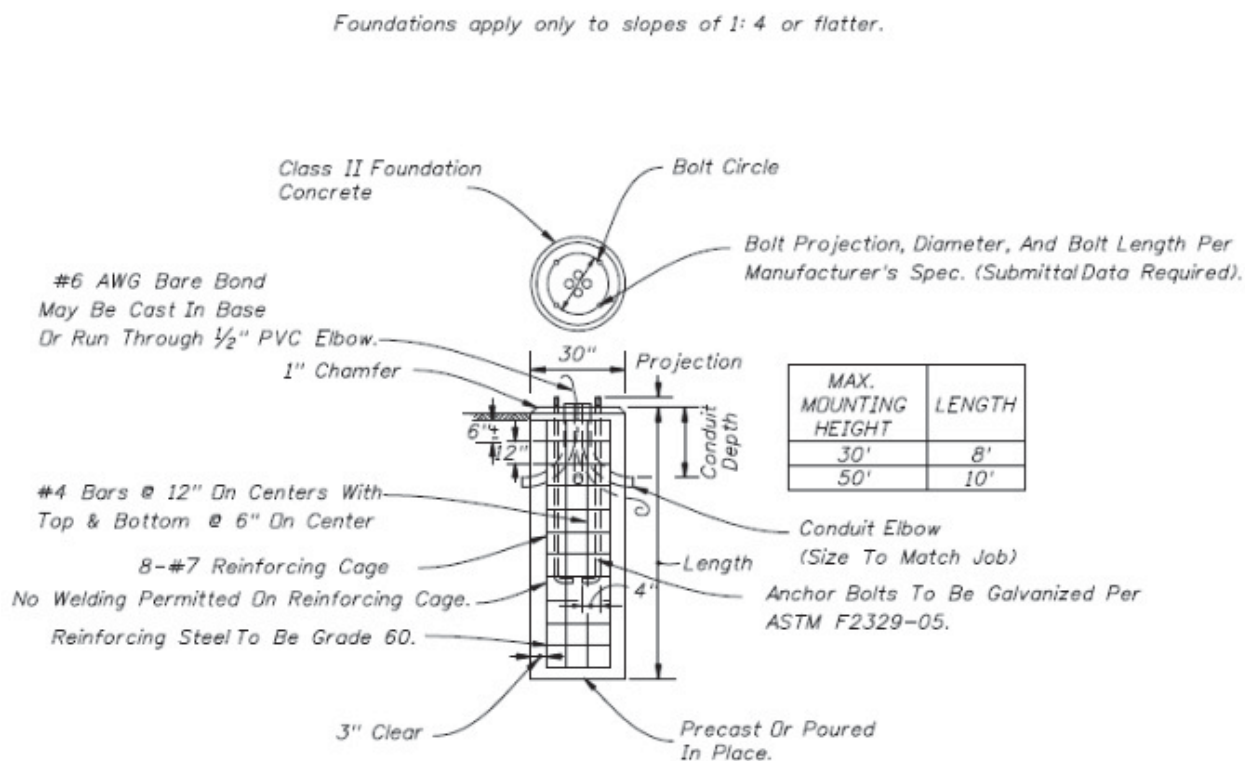


Figure 21: Florida Department of Transportation Auger Drilled Pole Foundation

### 3.6 Wind induced vibrations on light poles

Under certain circumstances, extra measures may be necessary to prevent wind-induced vibrations on light poles. In steady low wind speed situations, (20-40 mph) with poles 25 feet or higher, with fixtures that have an effective projected area of less than 2 square feet, poles have a higher probability of wind induced harmonic vibrations. This may cause poles to fail because of the fracture of the weld between the pole and the base plate. Light pole manufactures sometimes have information on this phenomenon, but they warn that they do not warranty poles that fail in this way. It seems that the most cost effective way to prevent this type of failure is to select poles, pole heights, and fixtures that do not lend themselves to this type of vibration. Tapered poles, round poles, and octagonal poles are less likely than square straight poles to experience this phenomenon. Furthermore, geographical location may contribute to the steady slow wind speeds that cause this type of vibration. Open flat lands, places where wind may be channeled through a valley, and airplane runways may be the most susceptible (Manis, Reference 1).

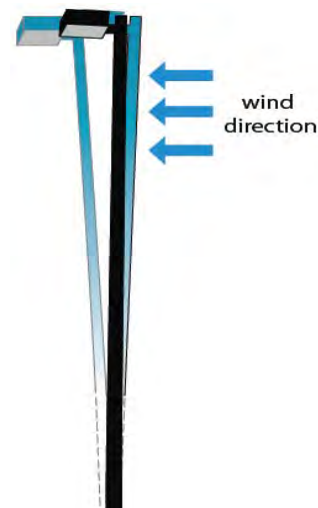


Figure 22: Harmonic Vibration due to Wind (Manis, 2008)

### 3.7 Light pole maintenance and inspection

Light poles require typical maintenance like changing bulbs, painting the steel, and inspecting the electrical components. From a structural perspective special attention may be needed to recognize potential failure due to wind induced vibrations. Lithonia Lighting literature explains that it is important to inspect regularly, about every 3 months, for signs of fatigue. This is because fatigue failure comes quickly after signs appear and the results of failure can be catastrophic ([www.lithonia.com](http://www.lithonia.com)).

Inspectors should look for hairline cracks just above the weld from the pole to the base plate. Rust will typically be apparent at the fatigue area. Aluminum poles, which do not show rust, may need to be inspected by a red die penetration test.

### 3.8 Conclusions

In conclusion the author presents a few possible points of interest for readers of this paper who are involved in utility distribution pole or light pole design:

For utility distribution pole designers, this report presents basic concepts that most utility companies are well versed in. These utility companies may want to consider a few things: Firstly, there may be considerable cost savings with increase in wood pole inspection and treatment as explained in this report. Secondly, the 10% + 2 ft rule for setting depth appears to work fine in soils that are well consolidated. Regarding poles set in questionable soil, one may consider using one of the foundation design methods explained in this paper to determine setting depth. Thirdly, when a wood pole is required to be very large to withstand the loads, the utility company may consider providing a concrete or steel manufacturer with either a loading diagram or specify a wood-pole-equivalent. Regarding the latter, one may choose to utilize the differences in material over strength factors for cost savings.

It may be prudent for any private property developer, city or county to know its options when buying light poles. One may specify a certain wind speed, fatigue category (I, II or III - if any), and standard for design (AASHTO-LTS, the state Department of Transportation standard or commercial criteria). If the lighting project has any Department of Transportation oversight or funds involved, the design will be per the Department of Transportation's standard, which is usually some version of the AASHTO-LTS code. If the project requires no DOT oversight, one may specify to use commercial criteria for a minimal cost solution, but some liability exists because the poles are not designed by a code. One may also select poles by the manufacturer's product literature as detailed in this report.

Engineers who are consulted to design foundations for self-supporting utility poles or light poles may pay attention to current methods of foundation design and typical Department of Transportation pole foundations as addressed in this report. In regards to light pole design, the manufacturer will supply base reactions upon request.



**References:**

1. American National Standards Institute, Inc.; American National Standards for Wood Poles and Wood Products; ANSI 05.1 2008, Specifications & Dimensions
2. Bingel, Nelson of Osmose Utilities; Interview on February, 2011.
3. Crosby, Adam; author's photos; 2011
4. Florida Department of Transportation website; <http://www.dot.state.fl.us/>
5. Georgia Electric Membership Corporation website; <http://www.georgiaemc.com/>
6. Georgia Environmental Finance Authority website; <http://www.gefa.org/Index.aspx?page=328>
7. Guidelines for RUS Approval to Use Fiber Reinforced Polymer (FRP) Poles (July 2008)
8. Jacksonville Electric Authority website; <http://jea.com/>
9. Lithonia Lighting technical bulletin; Light Standards, Effects of Vibration, 2002
10. Lithonia Lighting website; <http://www.lithonia.com/>
11. Manis, P., Structure Magazine, March 2008, "Wind Induced Vibrations on Light Standards"
12. National Electrical Safety Code C2-2007
13. Surya Roshni Limited website; <http://suryaroshnilighting.com/>
14. Techstreet of Thomas Reuters websits; <http://www.techstreet.com/>
15. Union Metal website; <http://www.unionmetal.com/>
16. United States Department of Agriculture: Rural Utilities Service: Bulletin 1730B-121
17. United States Department of Agriculture: Rural Utilities Service: Bulletin 1724E-150
18. United States Department of Agriculture: Rural Utilities Service: Bulletin 1724E-20
19. Valmont Industries, Inc. website; <http://www.valmont.com/>



Appendix:

**RTA Round Tapered Aluminum Poles**

TECHNICAL INFORMATION										
Catalog Number	Nominal shaft length (ft.)	Wall pole shaft size (in. x in. x ft.)	Thickness (in.)	EPA (ft) with 1-3 gust			Max. weight	Bolt circle (in.)	Bolt size (in. x in. x in.)	Approximate ship weight (pounds)
				80 mph	90 mph	100 mph				
RTA 20SC	20	5 x 3 x 19.66"	0.125	3.9	2.5	1.8	100	7.5-9.5	.75 x 18 x 3	62
RTA 20SG	20	5 x 3 x 19.66"	0.188	7.4	5.2	3.8	100	7.5-9.5	.75 x 18 x 3	72
RTA 20BG	20	6 x 4 x 19.66"	0.188	12.2	8.2	7.2	214	9-10	.75 x 30 x 3	107
RTA 20TE	20	7 x 4 x 19.66"	0.156	15.0	11.4	8.0	256	9.875-11.25	1 x 36 x 4	103
RTA 25GE	25	6 x 4 x 24.66"	0.156	5.3	3.6	2.6	114	9-10	.75 x 30 x 3	106
RTA 25TE	25	7 x 4 x 24.66"	0.156	9.5	7.0	5.4	162	9.875-11.25	1 x 36 x 4	120
RTA 25GE	25	8 x 4.5 x 24.66"	0.156	14.2	10.9	8.5	220	11-12	1 x 36 x 4	130
RTA 25BG	25	8 x 4.5 x 24.66"	0.188	18.0	13.8	10.9	261	11-12	1 x 36 x 4	153
RTA 30TE	30	7 x 4 x 29.66"	0.156	5.5	3.8	2.7	111	9.875-11.25	1 x 36 x 4	135
RTA 30GE	30	8 x 4.5 x 29.66"	0.156	9.4	7.0	5.3	151	11-12	1 x 36 x 4	150
RTA 30BG	30	8 x 4.5 x 29.66"	0.188	12.4	9.4	7.3	179	11-12	1 x 36 x 4	175
RTA 30 10G	30	10 x 6 x 29.66"	0.188	23.8	18.3	14.3	377	14.25-16.25	1 x 40 x 4	235
RTA 35GE	35	8 x 4.5 x 34.66"	0.156	5.8	4.1	2.9	119	11-12	1 x 36 x 4	185
RTA 35BG	35	8 x 4.5 x 34.66"	0.188	8.3	6.0	4.5	141	11-12	1 x 36 x 4	220
RTA 35BJ	35	8 x 4.5 x 34.66"	0.250	12.9	9.7	7.5	183	11-12	1 x 36 x 4	251
RTA 35 10G	35	10 x 6 x 34.66"	0.188	17.8	13.6	10.4	295	14.25-16.25	1 x 40 x 4	268
RTA 39BG	39	8 x 4.5 x 39.66"	0.188	5.8	3.9	2.7	122	11-12	1 x 36 x 4	250
RTA 39BJ	39	8 x 4.5 x 39.66"	0.250	9.7	7.1	5.4	158	11-12	1 x 36 x 4	290
RTA 39 10G	39	10 x 6 x 39.66"	0.188	14.2	10.5	7.8	253	14.25-16.25	1 x 40 x 4	295
RTA 39 10J	39	10 x 6 x 39.66"	0.250	20.4	15.5	11.9	300	14.5-16	1.25 x 48 x 5	373
3RTA 84C	8	4 x 3 x 8	0.125	12.1	8.3	7.3	75	6.5-7.25	.75 x 18 x 3	23
3RTA 104C	10	4 x 3 x 10	0.125	8.8	6.7	5.2	75	6.5-7.25	.75 x 18 x 3	27
3RTA 124C	12	4 x 3 x 12	0.125	6.6	4.8	3.6	75	6.5-7.25	.75 x 18 x 3	31
3RTA 144C	14	4 x 3 x 14	0.125	4.9	3.4	2.4	75	6.5-7.25	.75 x 18 x 3	34
3RTA 164C	16	4 x 3 x 16	0.125	3.5	2.3	1.5	75	6.5-7.25	.75 x 18 x 3	38
3RTA 185C	18	5 x 3 x 18	0.125	6.9	5.0	3.8	75	7.5-8.5	.75 x 18 x 3	43
3RTA 185C	18	5 x 3 x 18	0.125	5.0	3.5	2.5	150	7.5-8.5	.75 x 18 x 3	47
3RTA 185E	18	5 x 3 x 18	0.156	7.0	5.0	3.7	150	7.5-8.5	.75 x 18 x 3	57
3RTA 205C	20	5 x 3 x 20	0.125	3.8	2.5	1.8	150	7.5-8.5	.75 x 18 x 3	50
3RTA 205E	20	5 x 3 x 20	0.156	5.5	3.8	2.5	150	7.5-8.5	.75 x 18 x 3	62

Appendix Figure 1: Lithonia Lighting -Round Tapered Aluminum Poles

DIMENSIONAL AND LOAD DATA										
TYPICAL WEIGHT AND ALLOWABLE SIZE OF LUMINAIRES*							DIMENSIONS OF POLES			
NOMINAL MOUNTING HEIGHT	TYPICAL LUMINAIRE WEIGHT (LBS.)	EFFECTIVE PROJECTED AREA IN SQUARE FEET AT					POLE HEIGHT	TOP	BASE	MODEL NUMBER **
		70 MPH	80 MPH	90 MPH	100 MPH	110 MPH				
30'	150	10.0	6.5	4.5	3.2	2.4	29'8"	4'	7"	+2908 - 40705T4
30'	150	15.5	11.1	8.2	6.2	4.8	29'8"	4.5'	8"	+2908 - 45805T4
30'	150	20.2	14.6	11.1	8.6	6.7	29'8"	4.5'	8"	2908 - 45806T4
30'	150	26.8	21.2	16.2	12.8	10.2	29'8"	4.5'	8"	2908 - 45808T4
30'	200	37.3	28.0	21.5	16.8	13.3	29'8"	6'	10"	2908 - 60106T4
30'	300	50.7	38.2	29.6	23.5	18.8	29'8"	6'	10"	2908 - 60108T4
33'	150	12.1	8.4	6.0	4.5	3.3	32'8"	4.5'	8"	+3208 - 45805T4
33'	150	16.4	11.5	8.5	6.5	4.9	32'8"	4.5'	8"	3208 - 45806T4
33'	150	24.0	17.4	13.2	10.2	8.1	32'8"	4.5'	8"	3208 - 45808T4
33'	200	31.5	23.5	18.0	14.0	10.8	32'8"	6'	10"	3208 - 60106T4
33'	300	43.5	32.7	25.2	19.9	15.8	32'8"	6'	10"	3208 - 60108T4
35'	150	10.2	6.8	4.8	3.4	2.5	34'8"	4.5'	8"	+3408 - 45805T4
35'	150	14.0	9.8	7.1	5.3	4.0	34'8"	4.5'	8"	3408 - 45806T4
35'	150	21.3	15.2	11.4	8.8	6.9	34'8"	4.5'	8"	3408 - 45808T4
35'	200	28.4	21.1	16.0	12.2	9.4	34'8"	6'	10"	3408 - 60106T4
35'	300	39.4	29.5	22.7	17.6	13.9	34'8"	6'	10"	3408 - 60108T4
37'	150	12.0	8.1	5.8	4.2	3.1	36'8"	4.5'	8"	+3608 - 45806T4
37'	150	18.7	13.3	9.9	7.5	5.8	36'8"	4.5'	8"	3608 - 45808T4
37'	200	25.4	18.7	14.1	10.7	8.0	36'8"	6'	10"	3608 - 60106T4
37'	300	35.8	26.7	20.4	15.8	12.2	36'8"	6'	10"	3608 - 60108T4
39'	150	10.1	6.6	4.6	3.2	2.1	38'8"	4.5'	8"	+3808 - 45806T4
39'	150	16.5	11.4	8.4	6.4	4.7	38'8"	4.5'	8"	3808 - 45808T4
39'	200	22.8	16.7	12.4	9.2	6.8	38'8"	6'	10"	3808 - 60106T4
39'	300	32.4	24.0	18.2	14.0	10.7	38'8"	6'	10"	3808 - 60108T4
48'	300	19.6	14.1	10.4	7.6	5.4	47'8"	6'	10"	4708 - 60108T4
50'	300	17.5	12.5	9.1	6.5	4.5	49'8"	6'	10"	4908 - 60108T4

Appendix Figure 2: Valmont Structures -Round Tapered Aluminum Poles

# STEELWORKS

the online resource for steel



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## New Life Cycle Assessment Study Shows Replacing Wood Utility Poles with Steel Significantly Lowers Key Environmental Impacts



**WASHINGTON, D.C., Aug. 7, 2013** – A detailed life cycle assessment (LCA) study commissioned by the Steel Market Development Institute (SMDI), a business unit of the American Iron and Steel Institute, finds that when comparing overall environmental performance, galvanized steel utility poles outperform wood poles in key environmental measures. The peer-reviewed study, conducted in compliance with international LCA standards (ISO-14040-series), is the most comprehensive environmental assessment of its kind to date, bringing a new level of transparency to the comparative performance of these two material choices.

"Every material choice has environmental consequences at some point during its manufacture, use and disposal," said Lawrence W. Kavanagh, president of SMDI. "Manufacturers have a responsibility to know what these consequences are in order to identify improvement opportunities, while simultaneously helping customers make the best informed decisions. We are pleased to be able to share the results of this study with our customers, demonstrating that steel poles have superior environmental performance for a wide range of indicators."

The study compared the use of galvanized steel and wood utility poles in the southeastern United States over a 40-year time horizon. It stands apart from previous studies in that it applied advanced LCA methods to ensure a more comprehensive assessment and reporting of the full range of potential environmental impacts associated with both galvanized steel and wood, including local and regional ecological impacts. Among its findings, the study showed that replacing wood utility poles with galvanized steel will likely result in lower levels of greenhouse gas and aerosol emissions associated with global climate change, a lower burden on critical energy resources, reduced impacts on the habitats of many threatened and endangered species, and reduced impacts associated with hazardous emissions and wastes. The primary drivers for these findings are the longer lifespan of steel poles, high steel recycling rates, and the overall ecological and land use impacts of growing, harvesting and replanting the forests used to produce wood poles.

"The fact that the steel pole option has relatively lower greenhouse gas emissions and impacts on energy resources reflects the greater durability of steel poles as compared to their wood pole counterparts," said Kavanagh. "Steel's high recycling rate also means that it gets used over and over in all of its applications and that steel poles offer a clear advantage in terms of life-cycle cost efficiency."

The study considered 45-foot-tall, Class 2/Grade B distribution poles and included the production, installation, maintenance and disposal of the poles. It assessed wood poles made from southern yellow pine grown in the southeastern region of the United States and treated with chromated copper arsenate (CCA), a typical practice. The steel poles in the study were produced using North American hot-rolled steel coil and were hot-dip galvanized.

Two different scenarios were compared – one in which wood poles were taken out of service as a result of pole failure and continued to be replaced by Class 2 wood poles, and the other in which wood poles taken out of service due to pole failure were replaced by galvanized steel utility poles. In both scenarios, the total number of utility poles in operation was held constant at one million poles. **Based on prevailing industry data, the wood poles were assumed to be replaced at a rate of 2.5 percent per year (40-year lifespan), while steel poles were assumed to be replaced at a rate of 1.25 percent per year (80-year lifespan).**

The study found that replacing wood poles with steel poles resulted in several significant environmental benefits, including:

- **Lower greenhouse gas and aerosol emissions associated with global climate change.** When considered over the entire 40-year time span, the accumulated greenhouse gas and aerosol emissions associated with global climate change are lower for the steel pole scenario. This result challenges the common assumption that treated wood products have a lower carbon footprint than steel products. It reflects the emissions of greenhouse gases and aerosols associated with the CCA-treatment and installation of the wood poles, as well as the production of wood from southern yellow pine using short-rotation, even-aged forest management practices, which result in losses of forest carbon storage of between 20 to 30 percent, equivalent to 20 to 40 tons of carbon dioxide per acre. Emissions related to steel poles occur during hot-rolled coil steel production, galvanization, zinc smelting and installation.
- **Lower energy resource depletion values.** The steel pole scenario results in the use of approximately half the non-renewable energy resources, requiring 300,000 fewer barrels of oil (equivalent) vs. the wood pole scenario over a 40-year timeframe.
- **Lower impacts on the habitats of threatened and endangered animal species.** In the steel pole scenario, the habitats of three key terrestrial species are impacted, compared to seven key terrestrial species in the wood pole scenario. In terms of key wetland species, the steel pole system does not have any significant impacts, while 81 species experienced disturbance to freshwater and/or wetland habitats in the wood pole scenario.
- **Lower impacts to terrestrial biomes.** When averaged over the 40-year time horizon, the results for terrestrial biome disturbance are equivalent to the full disturbance of approximately 12,000 acres for the wood pole scenario, compared to only approximately 15 acres in the steel pole scenario.
- **Reduced hazardous emissions and wastes.** The CCA formulation used for wood pole treatment is made from arsenic ore that is mined primarily in China. Arsenic is known to be chronically toxic and carcinogenic at elevated levels. In the United States, old wood poles are exempted from management as a hazardous waste under the Resource Conservation and Recovery Act, though CCA-treated lumber in residential applications is considered a hazardous waste. In the wood pole scenario, their disposal results in more than 590,000 tons of waste over a 40-year timeframe.

The study was conducted by SCS Global Services, a global leader in third-party environmental and sustainability certification, auditing, testing and standards development for nearly 30 years. SCS programs span a wide cross-section of sectors, recognizing exemplary performance in natural resource management, green building, product manufacturing, food and agriculture, retailing and more. SCS is a Certified B Corporation™, reflecting its commitment to socially and environmentally responsible business practice.

For more information or to view the study's Executive Summary, [click here](#).

The Steel Market Development Institute (SMDI), a business unit of the American Iron and Steel Institute (AISI), grows and maintains the use of steel through strategies that promote cost-effective solutions in the automotive, construction and container markets, as well as for new growth opportunities in emerging steel markets. For more news or information, visit [www.smdisteel.org](http://www.smdisteel.org) or follow us on Twitter at [www.twitter.com/smdisteel](https://twitter.com/smdisteel).

The steel utility distribution pole program is conducted under the Construction Market Council of the Steel Market Development Institute. The investor companies of the Construction Market Council include: AK Steel Corporation, ArcelorMittal Dofasco, ArcelorMittal USA LLC, EVRAZ North America, Gerdau, Nucor Corporation, Severstal North America, SSAB Americas, Steelscape, Inc., ThyssenKrupp Steel USA, LLC, United States Steel Corporation, and USS-POSCO Industries.

Contacts:

[Debbie Bennett](#)  
Manager, SMDI and Construction Market Communications  
Steel Market Development Institute  
Tel: 202-452-7179

[Deanna Lorincz](#)  
Senior Director, Communications  
Steel Market Development Institute  
Tel: 248-945-4763

###

25 Massachusetts Avenue, NW Suite 800 | Washington, DC 20001 | 202.452.7100  
2000 Town Center Suite 320 | Southfield, MI 48075 | 248.945.4777  
680 Andersen Drive | Pittsburgh, PA 15220 | 412.922.2772

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# Equipment Shelters



STATE OF NEVADA  
STATE BOARD OF EQUALIZATION

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Telephone (775) 684-2160  
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DEONNE E. CONTINE  
*Secretary*

In the Matter of

Level 3 Communications, LLC

Account #213231

Account #213232

Account #213295

Account #213296

Account #213303

Account #213304

Account #213307

Account #213308

PETITIONER

Katrinka Russell,

Elko County Assessor

RESPONDENT

**CONSOLIDATED:**

Case No. 14-306

Case No. 14-307

Case No. 14-308

Case No. 14-309

Case No. 14-310

Case No. 14-311

Case No. 14-312

Case No. 14-313

### NOTICE OF DECISION

#### ***Appearances***

Paul Bancroft and William McKean of Lionel, Sawyer and Collins appeared on behalf of Level 3 Communications (Taxpayer).

Katrinka Russell appeared on behalf of the Elko County Assessor's Office (Assessor).

#### ***Summary***

The matter of the Taxpayer's petition for review of property valuations for the 2013-2014 Unsecured Roll within Elko County, Nevada, came before the State Board of Equalization (State Board) for hearing in Carson City, Nevada, on October 9, 2014 after due notice to the Taxpayer and the Assessor.

The State Board consolidated case numbers 14-306, 14-307, 14-308, 14-309, 14-310, 14-311, 14-312, and 14-313.<sup>1</sup>

The Taxpayer appealed the value of its telecommunications property in several counties, including Elko County. Taxpayer testified when these properties moved from central assessment to local assessment, taxable values went up significantly.<sup>2</sup> The Taxpayer identified issues common to most of the counties, including whether or not buried conduit, fiber optic cable, and telecommunications equipment shelters should be considered real or personal property and the appropriate depreciable life thereof; and the appropriate depreciable life of central office equipment. In Elko County specifically, the Assessor classified conduit and fiber optic cable as personal property and used a fifteen-year life. The Taxpayer agreed with those lives, but did not agree with the life assigned for central office equipment or the treatment of the equipment shelters as real property with a 50-year life.<sup>3</sup>

The Taxpayer requested treatment of its properties by the Elko County Assessor equal to the classification and rate of depreciation afforded by the Clark County Assessor regarding telecommunications shelters, conduit, fiber optic cable, and central office equipment. The Clark County Assessor used \$49,000 per telecommunications equipment shelter and a 15 year life compared to an acquisition cost and a 50 year life used by the Elko County Assessor.<sup>4</sup> Upon questioning, the Taxpayer

<sup>1</sup> *Tr., 10-9-14, p.181, ll. 3-11*: 3 MEMBER MESERVY: With all the slight that we just 4 heard on 14-306, 14-307, 14-308, 14-309, 14-310, 14-311, 5 14-312, 14-313, my motion is that we consolidate them all to 6 this case using 14-307. 7 CHAIRMAN WREN: Is there a second? 8 MEMBER MARTIN: Second. 9 CHAIRMAN WREN: Discussion? All in favor say 10 aye. 11 (The vote was unanimously in favor of the motion).

<sup>2</sup> *Tr. 10-9-14, p. 181, ll. 14-23*: 14 MR. BANCROFT: Thank you. Level 3 Communications 15 is a telecommunication company that was formerly centrally 16 assessed by the Department of Tax. This is the first year 17 that it moved to local assessment and was assessed by the 18 individual counties. What it owns in Elko County is a fiber 19 optic route that is buried in the ground and that's why it 20 appears in multiple taxing jurisdictions. The conduit is 21 laid in the ground and then a fiber optic cable is threaded 22 through the conduit. It's that property that's being valued 23 in this case. *Tr. 10-9-14, p. 186, ll. 1-7*: 1 Sawyer, Collins. This issue came to light when we first 2 received tax bills -- the taxpayers received tax bills. 3 There wasn't a valuation in December, so the tax bills 4 started coming out in April and May. And saw a change in the 5 tax values. Obviously there was some change expected from 6 central to local assessment, but the tax bills were extremely 7 off the charts in terms of almost three-fold increase. *Tr., 10-9-14, p. 205, l. 19 through p. 206, l. 3*: 19 MS. RUBALD: Mr. Chairman, in 1999 a law was 20 passed that basically said the telecommunications are 21 properties that carry video services were no longer to be 22 centrally assessed. They were to be locally assessed. And 23 that was primarily at the time aimed at cable television type 24 providers. But since that time there's been a convergence of 25 the industries between telecommunications and cable TV and Page 206 1 those that we can identify of telecoms that carry video and 2 we released back to local assessment that happen to be Level 3 3 and AT&T Nevada and AT&T generally.

<sup>3</sup> *Tr., 10-9-14, p. 182, l. 21 through p. 184, l. 11*: 21 MR. BANCROFT: And so the issues that came up not 22 just in Elko but in all the counties boiled down to three 23 issues that appear in Elko. No. Four issues. One is what 24 is the appropriate depreciable life for conduit that's buried 25 in the ground. In the stipulation that we just approved for Page 183 1 Washoe County and Clark County, the stipulation provided for 2 a 15-year depreciable life pursuant to the personal property. 3 The second category, and you'll see it on page -- 4 The second category is fiber optic cable, which is a, again, 5 in the stipulation with Clark and Washoe is a 15-year life. 6 On these schedules, the Elko County assessor has moved both 7 of those categories to a 15-year life. We're in agreement on 8 that. 9 The third category of personal property, and this 10 appears on SBE-4, was initially reported as central office 11 equipment because the personal property manual didn't have a 12 lot of categories in which to put stuff. And since this was 13 the first time reporting, Level 3 wasn't sure how to label 14 this category of equipment that it put in there. It put in 15 central office equipment, which resulted in a 15-year 16 depreciable life. 17 But after explaining to the folks in Clark County 18 and Washoe County the nature of this equipment, it's actually 19 computer-based optical transmission equipment, it was moved 20 to a five-year life. So the stipulation in both Washoe 21 County and Clark County moved that category to a five-year 22 life, which is what we're asking for here. 23 And the Elko County assessor has highlighted 24 those line items on the personal property sheet that deal 25 with this switch from central office equipment to Page 184 1 computer-based optical transmission equipment. 2 And the final item on the personal property 3 schedule is the telecommunication equipment shelter. I'm not 4 sure if you're familiar with what a telecommunications 5 equipment shelter is, but it's a pre-cast concrete 6 rectangular box that's taken on the back of a truck to the 7 location and it is placed on top of a concrete foundation. 8 It is just to protect the -- the computer-operated optical 9 transmission equipment, the equipment that receives the 10 signal and then energizes it to send it out again along the 11 conduit. See also *Tr., 10-9-14, p. 212, ll. 1-10*: 1 property. That's already water under the bridge. And Terry 2 has suggested that perhaps it should be treated as a 3 distribution plant and identified a 30-year property. So 4 that's one. I started out saying there's four. Two aren't 5 at issue: Fiber optic cable and computer-based optical. 6 Conduit is the discretion of should it get the same treatment 7 as others or should it be treated as distribution. 8 And the fourth is the idea that telecommunication 9 equipment shelter, is it real property, depreciable over a 10 50-year life or should it be treated as personal property

<sup>4</sup> *Tr. 10-9-14, p. 185, ll. 6-22*: 6 What we're asking is just equal treatment, you 7 know, if a type of property was reported in one jurisdiction, 8 it should get the same tax treatment when reported in another 9 jurisdiction. And we just have four categories in Elko



stated he could not direct the Board to where in the Personal Property Manual it says shelters must have a 15 year life.<sup>5</sup>

The Elko County Assessor asked the State Board for guidance in how to handle telecommunication assets. She stated the county assessors had met several times to discuss how to value the equipment, and as a result, the Washoe County Assessor requested guidance from the Department of Taxation.<sup>6</sup> The Washoe County Assessor advised, in a letter dated August 12, 2013, that the Marshall Valuation Service did not contain cost data for certain items the Washoe County Assessor anticipated classifying as fixtures and therefore real property. The Washoe County Assessor then requested permission to index or trend the original construction costs reported by the taxpayer for property classified as real property to current replacement cost new, and then depreciate the result using a 50 year straight-line depreciation schedule adopted by the Nevada Tax Commission in the 2013-14 Personal Property Manual. See *Record, Department Exhibit 2*. The Department responded in a letter dated September 10, 2013 that the methodology requested by the Assessor provided a suitable estimate of replacement cost new less depreciation for telecommunications fixtures not otherwise available in the Nevada Rural Building Manual or in Marshall Swift, so long as "all applicable obsolescence" was also recognized. The letter was copied to all assessors.<sup>7</sup> See *Record, Department Exhibit 3*.

The Elko County Assessor testified that the telecommunications companies believed the methodology did not result in a fair assessment of real and personal property. She requested the State Board provide specific guidelines on the life schedule to be used on the equipment so that all assessors could recalculate the 2013 property assessments accordingly.<sup>8</sup> She also requested guidance from the State Board on procedures for taxpayers to report real and personal property, noting a discrepancy in

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10 County that we would like -- the first two issues, the 11 conduit and the fiber optic cable, they've agreed to make 12 those adjustments. The second two categories, the switch 13 from central office equipment to computer-based optical, 14 she's highlighted those changes so you can see the line items 15 there. And then that last item is just the telecommunication 16 shelters, which appear on SBE-10 and SBE-11. They're in 17 there at acquisition cost, which does not necessarily reflect 18 the, you know, natural value of these things and that's why 19 Clark County put them at a uniform \$49,000 per shelter and 20 the 15-year life instead of a 50-year life. And by doing 21 that, it would bring Elko in to consistent treatment with 22 Washoe and Clark.

<sup>5</sup> *Tr., 10-9-14, p. 189, l.11 to p. 190, l. 2:* 11 MEMBER HARPER: Mr. Bancroft, on these shelters 12 you say Clark and Washoe went from 50-year to 15-year. I 13 don't see on this handout from the personal property tax 14 manual -- Yeah, I don't see where that falls in. Is this a 15 new -- 16 MEMBER MESERVY: No. He -- Isn't that where -- 17 You're talking about the box? 18 MEMBER HARPER: Yeah. 19 MEMBER MESERVY: That was in the property, 20 Personal Property Manual, page 34. 21 MEMBER HARPER: We only have 33. 22 MR. BANCROFT: And I'm sorry, Mr. Harper, if I 23 misspoke. But there were no equipment shelters in Washoe 24 County. It was only Clark County that I made that comment in 25 reference to. And that's just the way Clark County treated Page 190 1 these. I can't direct you to where in the manual it says 2 that's correct.

<sup>6</sup> *Tr. 10-9-14, p. 191, l. 11-22:* 11 In the past, the assessments were done by the 12 Department of Taxation based on a unitary method. When it 13 was found that per NRS 361.320 Number A that some of the 14 telecommunication companies were to be assessed at the local 15 level, the counties had several meetings in regard to the 16 assessments and how to value this equipment. 17 On August 13th 2013, a letter from Washoe County 18 was sent to the department for clarification. A guidance 19 letter from the department was sent out on September 10<sup>th</sup> 20 2013 approving the alternative methodology for the 21 telecommunications equipment. And that was to be based on a 22 50-year life.

<sup>7</sup> *Tr., 10-9-14, p. 195, ll.4-19:* 4 CHAIRMAN WREN: I need to ask a question. On 5 your testimony, did you recommend 50 years for the boxes? 6 MS. RUBALD: No. What we did is there was a 7 request to use for items that were considered to be fixtures 8 or real property, the question was whether an alternative 9 cost could be found because it was represented to us that 10 Marshall & Swift was not complete enough and with regard to 11 Telecommunications Property, so what we did is we approved an 12 acquisition cost basis if it was real property then to apply 13 a 50-year life. 14 CHAIRMAN WREN: Okay. Do you have enough copies 15 for both sides too? 16 MS. RUBALD: Yes. 17 CHAIRMAN WREN: Any objections? 18 MR. BANCROFT: No. 19 CHAIRMAN WREN: Just hand that out.

<sup>8</sup> *Tr., 10-9-14, p. 191, l. 23 through p. 192, l. 5:* 23 The telecommunications companies feel that it's 24 not a fair assessment of the real and personal property. I 25 would like to request that the board review the equipment Page 192 1 used by the telecommunications company, provide specific 2 guidelines on the life schedule to be used on this equipment. 3 In order to maintain conformity and equity, all the counties 4 can take its ruling and go back, recalculate the 2013 5 property assessments and either rebill or refund accordingly.

the amounts reported by year. She noted examples in which the total assessed value was significantly less than documentation of agreements showing higher values.<sup>9</sup>

Terry Rubald, Deputy Executive Director of the Department, discussed the information available in the Personal Property Manual, noting that the Manual itemizes certain equipment and a life for each type. For example, the Manual indicates a 15 year life for fiber optic cable. It also indicates a 30 year life for distribution plant, if such plant is classified as personal property. She testified that the IRS in Publication 946 defines "distribution plant" to include such assets as pole lines, cable, aerial wire, underground conduits and comparable equipment and related land improvements as defined in the FCC Part 31 account numbers. See *Department Exhibit 4*. She further stated the IRS Publication 946 is specifically referenced in the Personal Property Manual on page 56.<sup>10</sup> See *2013-14 Personal Property Manual* at [http://tax.nv.gov/LocalGovt/PolicyPub/ArchiveFiles/Personal\\_Property\\_Manuals/](http://tax.nv.gov/LocalGovt/PolicyPub/ArchiveFiles/Personal_Property_Manuals/) as found in the record.<sup>11</sup> She opined that the Clark County Assessor should have used the 30 year life for distribution plant, including poles and conduit; and a 15 year life for fiber optic cable. The Taxpayer disagreed with the recommendation, however, the Elko County Assessor did agree.<sup>12</sup>

<sup>9</sup> *Tr., 10-9-14, p.193, l. 18 through p. 194, l. 19: 18* We would also like to request that the board **19** provide guidance to the telecommunications company on the **20** procedures for reporting all real and personal property. **21** There's a need for clarity on the application costs and/or **22** the application year. Upon reviewing some of the statements **23** provided by these companies, the year of application does not **24** change, but the amount seems to increase or decrease. **25** I don't know if they're grouping the total cost to fiber optics **Page 194 1** together in that year in reducing the amount of the disposed **2** amount, which would make sense. But how do we account for **3** increasing the amount of fiber optics that was purchased in **4** 1973 or 1993? I mean, I can see it going down if they had to **5** dispose of it. But how did it go up in that same year? **6** I think there needs to be a little bit of consistency in that. **7** The other thing that bothers me is on reviewing **8** some of the other accounts in the other counties, there was **9** one agreement that was made and the amount of that agreement **10** was over a hundred thousand dollars and that was indicated to **11** be equipment that follows along I-80. Elko County has a lot **12** of ground with I-80 going clear across that county. And my **13** stipulated changes came to around \$30,000 with reducing the **14** 15-year life. These were numbers that I came up with in case **15** the board wanted a number to give on an agreement or **16** whatever. **17** So that kind of tells me there's some discrepancy **18** on the reporting. And so I think clarification needs to be **19** brought there.

<sup>10</sup> *Tr. 10-9-14, p. 195, l. 20 through p. 198, l. 3: 20* MS. RUBALD: Okay. Then I would like to talk **21** about the Personal Property Manual. You'll notice that on **22** page 33, it's for telecommunications, generally says see **23** itemized equipment and then it has a list down there at the **24** bottom. For fiber optic cable alone, it's a 15-year life. **25** Right above that you'll see something called distribution **Page 196 1** plant if personal property. And that's to imply that a **2** decision needs to be made as to whether the distribution **3** plant is real property or personal property. But if it's **4** personal property, it has a 30-year life. **5** Well, what is distribution plant? I would like **6** to reference page 56 in the Personal Property Manual. **7** I happen to be looking at the latest one, the page is unchanged **8** for 13-13. And what appendix C is, is the list of the **9** sources used to estimate expected useful life. And one of **10** the sources that's referenced there is the Department of the **11** Treasury, Internal Revenue Service, Publication 946, how to **12** depreciate property. **13** And I brought along -- We've got something else **14** to pass out, please. I brought along the relevant page on **15** Telecommunications Property that describes what distribution **16** plant is. And just as soon as you get it, I'll ask you to **17** turn from the front page to the second page. And on the **18** second page you will see at Number 48.14, a description of **19** what telephone distribution plant is. It includes such **20** assets as pole lines, cable, aerial wire, underground **21** conduits and comparable equipment and related land **22** improvements as defined in the FCC Part 31 account numbers. **23** So that is a description of what distribution plant is. **24** So how do we reconcile that with -- back to page **25** 33, distribution plant if it's personal property? It app **Page 197 1** to me that conduit is distribution plant. And although this **2** description in the IRS also includes cable, we have **3** specifically taken cable out and called it a 15-year life. **4** But distribution plant like coals and conduit are **5** distribution plant having a 30-year life. And that is what I **6** would recommend, that we continue to use the Personal **7** Property Manual as published. **8** MEMBER MESERVY: Where is the 30 year again? **9** I didn't see that on the one you just gave us. **10** MS. RUBALD: It's on page 33 and it's just right **11** above the fiber optic cable. So there's a difference between **12** the conduit, which is infrastructure, and the cable, which is **13** in the infrastructure. **14** MEMBER MESERVY: Thank you. **15** CHAIRMAN WREN: Okay. So who approves the **16** personal property? This is out of the Personal Property **17** Manual; right? **18** MS. RUBALD: It's out of the Personal Property **19** Manual. The Personal Property Manual has a workshop every **20** year and then it's taken a month later to the Nevada Tax **21** Commission for approval. And these lives have basically **22** remained unchanged for several years. **23** CHAIRMAN WREN: Okay. And your Publication 964 **24** from the IRS is just substantiating information, if you will? **25** MS. RUBALD: Yes, it is. Because on page 56 of **Page 198 1** the Personal Property Manual, which is Appendix C, we **2** specifically reference the sources we use for the lives and **3** so one of the sources is this publication. **4** CHAIRMAN WREN: Perfect. And it's been approved **5** by the Tax Commission? **6** MS. RUBALD: Yes, sir.

<sup>11</sup> *Tr., 10-9-14, p. 187, ll. 5-10: 5* MS. RUBALD: Yes, Mr. Chairman and Mr. Meservy, **6** yes, you have the Personal Property Manual for 14-15, but I **7** can testify to the fact that these lives are the same for the **8** 13-14 year and you have to go up to the top where it says NRS **9** and NAC and SBE hearing guidelines. And in there, the third **10** from the top is the Personal Property Manual.

<sup>12</sup> *Tr., 10-9-14, p. 199, ll. 6-21: 4* So what you're saying is Clark County should have **5** used 30 in your opinion? **6** MS. RUBALD: They should have used 30 for the **7** distribution plant, which includes poles and conduit, and **8** they should have used 15 years, and they did use 15 years, **9** for the fiber optic cable. **10** CHAIRMAN WREN: And that's what you're asking us **11** to have everybody do? **12** Case No. 14-306, 307, 308, 309, 310, 311, 312, 313  
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The Taxpayer testified that four counties used a 15 year life for both fiber optic cable and conduit; and that historically other telecommunication companies have been given a 15-year life for conduit and fiber optic cable. The Taxpayer further testified that the policy of the state, whether written or unwritten, has been to treat distribution plant with a 15 year life. The Taxpayer opined that in order to equalize, AT&T and Level 3 should be treated the same way that Clark, Lincoln, Nye, and Mineral Counties have treated telecommunication companies. The Taxpayer noted that the lack of equalization placed the company at a competitive disadvantage with its competitors and was not a fair valuation.<sup>13</sup>

The Taxpayer further objected to the Washoe County Assessor's request for advice and the response letter by the Department because it was issued without public comment and believed it resulted in unfair treatment. The Taxpayer characterized the letter as a change in policy.<sup>14</sup> The Department responded that the response letter to Washoe County relied on the authority of NAC 361.128 to allow alternative recognized cost manuals and cost determinations if Marshall and Swift did not adequately provide cost information.<sup>15</sup>

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MR. BANCROFT: No. 13 MS. RUSSELL: Yes. It's my understanding that 14 Level 3 and AT&T have reached stipulations with other 15 counties. Yeah. That's why I asked for a guidance to be 16 very specific how it should be done, like when you're talking 17 30 years for distribution plants, 30 years for the telephone 18 poles, 15, that it be very specific so that all the counties 19 are doing it that way. That's my main concern is uniformity 20 among all the counties so there's no question about how we 21 did it.

<sup>13</sup> Tr., 10-9-14, p.200, l. 24 through p. 203, l. 2: 24 MR. BANCROFT: Well, since I last spoke, a lot 25 has transpired both from Elko County and from the Department 1 of Tax. There's more on the table. I started out thinking 2 this was simple. But it's more complicated. It's not just 3 Clark County that was treating this in one fashion. It was 4 Clark, Mineral and Nye and Lincoln were all treating conduit 5 and fiber optic as 15-year. So it's not just one county and 6 it's not just a Level 3 issue. Right. It's not just a Level 7 3 or an AT&T issue. Because there are other 8 telecommunication companies out there with conduit and fiber 9 optic cable that have historically been given a 15-year 10 depreciable life, both in Clark County and in Washoe County. 11 You know, if you look at Charter Communications 12 in Washoe County, it's on a 15-year life. 13 CHAIRMAN WREN: For their fiber optic? 14 MR. BANCROFT: For their conduit and fiber optic. 15 CHAIRMAN WREN: And how about the distribution 16 thing? That's kind of where it seems like we're going awry 17 with this. 18 MR. MCKEAN: Ms. Rubald testified that she 19 believes conduit is distribution plant. And we're simply 20 saying the policy in this state whether it's written or 21 unwritten has been to treat that distribution, if you want to 22 call it that, a 15-year life. The other property owners, Cox 23 Communications, Charter, CenturyLink, have all received that 24 treatment. It was AT&T, as you see from the letter, and 25 Level 3 were specially pulled out and instructed to be given Page 202 1 a 50-year life, a whole different treatment than the personal 2 real property issue. They were nevertheless billed as 3 personal property and provided this billboard life, as you 4 can see, which has nothing to do with the Personal Property 5 Manual. 6 We are simply saying that in order to equalize 7 for this tax year, the only result has to be that AT&T and 8 Level 3 are not singled out for differential treatment but 9 are treated the same way that Clark County has treated all of 10 these companies for many years, as Washoe County has treated 11 all of these companies for many years, the 15-year life for 12 conduit as Lincoln County, Nye County, Mineral County have 13 done so. 14 If there's a new change in policy, perhaps the 15 rule making is appropriate and we can address some of these 16 issues in rule making. But right now, the key players, AT&T 17 and Level 3 are not the key players in the state. I would 18 warn that CenturyLink would have something to say about this 19 if they saw their tax bill for this kind of plant doubled. I 20 think there would be some other parties here. 21 We've tried to accomplish this given the playing 22 field that was out there, given what we knew about the other 23 counties and given what, for example, Josh Wilson recognized 24 in Washoe County for other similarly-situated taxpayers. It 25 put us at a competitive disadvantage with respect to the Page 203 1 other companies with whom we compete and it was clearly not 2 fair.

<sup>14</sup> Tr., 10-9-14, p. 203, l.21 through p. 205, l. 2: 21 If I have your pleasure, I could also just maybe 22 address what Ms. Rubald went through a little bit of the 23 history here. The two letters that were from August, AT&T, 24 this is from August 2013, these letters. AT&T received tax 25 bills, like I said, in the April/May time frame under the Page 204 1 personal property bills. And after receiving those bills, 2 they noticed in Washoe County the tax bill went up by about 3 three-fold, moving from central assessment to this 50-year 4 life. AT&T filed direct appeals to the state board of May 5 15th and that's kind of why this information wasn't provided. 6 At that time, AT&T had no idea about these 7 directive letters. These were issued without any kind of 8 public comment. They were issued and specified to taxpayers 9 for differential treatment to get a 50-year life. We haven't 10 even heard that discussion today, 15 versus 30. This told 11 the assessors to use a 50-year life for all the equipment, 12 which is why the tax bill went up so dramatically. And the 13 assessors themselves, the two assessors from the largest 14 counties said this is not fair, we can't have this and they 15 stipulated to adjust those values accordingly and 16 appropriately consistent with what they've been doing for 17 many years under the Personal Property Manual and under the 18 supervision of the Department of Tax. 19 If there's a problem with that supervision and a 20 problem with how that's been done, that needs to be dealt 21 with, but it needs to be dealt with not through secret 22 directive letters that are not copied on the taxpayers, were 23 not provided to you, were not provided to us, was done 24 without any rule making, without any notice under 233-B, 25 under the rule-making procedures. Any kind of change in Page 205 1 policy like this should be noticed so that other taxpayers 2 who can be affected have a voice.

<sup>15</sup> Tr. 10-9-14, p. 206, l. 20 through p.207, l. 22: 20 MS. RUBALD: Okay. If I could refer you to NAC 21 361.128, it basically says -- it requires us to use Marshall 22 & Swift. And then it says, "If the manuals described in 23 Subsection 2 do not apply to improvements

The State Board surveyed the county assessors in the audience. The Storey County Assessor, Jana Seddon, stated she put a life of 15 years on conduit and fiber optic cable, but put other distribution plant, such as poles, on a 30 year life. The Lander County Assessor, Lura Duvall, had no objection to a 15 year life for fiber optic cable, but stated she had real concerns about what is personal and what is real property, because telecommunications property that is real property should be treated like all real property in the state. She referenced the test to determine what is real property, such as disturbance of the ground and whether property is destroyed upon removal, stating she believed conduit in the ground met the real property test. For personal property, she stated the Personal Property Manual was the appropriate reference.<sup>16</sup>

The Esmeralda County Assessor, Ruth Lee, stated she used the 15 year life for conduit and fiber optic cable and a five year life for switches. The Eureka County Assessor, Michael Mears, stated

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of a particular **24** occupancy or construction type, the county assessor may apply **25** to the executive director for permission to use alternative **Page 207 1** recognized cost manuals, cost determinations or subscription **2** services. If the executive director finds that the manuals **3** described in Subsection 2 do not apply to such improvements **4** and that the alternative recognized cost manuals, cost **5** determinations or subscription services are suitable, the **6** executive director shall within 30 days after receiving an **7** application pursuant to this subsection approve the use of **8** the alternative recognized cost manuals, cost determinations **9** or subscription services and notify each assessor of that **10** approval." **11** So we received a letter from Washoe County asking **12** us, telling us that they felt that Marshall & Swift was **13** inadequate for the valuation of properties, certain fixtures **14** that they found were real property. And so what we did is we **15** granted them permission to use actual acquisition cost and if **16** it was real property to use the 50-year table that was in the **17** Personal Property Manual for billboards so that they would **18** have the same treatment as other real property. **19** CHAIRMAN WREN: Okay. **20** MS. RUBALD: And there was no specific direction **21** on which property. It was just property that the assessor **22** deemed to be real property.

<sup>16</sup> *Tr., 10-9-14, p.216, l. 13 through p. 219, l. 25:* **13** MS. SEDDON: Well, from what we're hearing, the **14** conduit which we would rather have at the 30 year, like I **15** said, we were trying to stay in line and be equalized **16** throughout some of the other counties like Washoe and Clark, **17** we did put the conduit on 15 and the fiber optics. But we **18** agree with the 15 on the fiber optics, but we also had the **19** poles on at 30. **20** CHAIRMAN WREN: Okay. But that's what the **21** handbook says. **22** MS. SEDDON: In the poles but not the conduit. **23** CHAIRMAN WREN: Okay. So according to the **24** handbook, the conduits should be 30. **25** MS. SEDDON: Yes, from the clarification that **1** Ms. Rubald gave us today. **2** CHAIRMAN WREN: Okay. So that was your only **3** disagreement. Okay. You're off the hook. **4** Laura. **5** MS. RUBALD: If I may just add one thing, **6** Mr. Chairman. That Personal Property Manual says **7** distribution plant if personal property. So that is, I'm **8** assuming that the decision was made by Jana that it was **9** personal property. **10** CHAIRMAN WREN: Okay. Ms. Duvall. And to be **11** fair to Laura and the assessors that come up here today, if **12** you don't know, that's okay too. **13** MS. DUVALL: Laura Duvall, Lander County **14** assessor. I would like to state on the record that I have **15** objections to even testifying because the appeals in my **16** county were not filed in accordance with Nevada law. They **17** were not appealed at the county level nor the time frame that **18** they were supposed to be appealed to the state level. They **19** were appealed actually last month. **20** CHAIRMAN WREN: Okay. We're not hearing your **21** case right now so hold off on that. I understand where **22** you're going. But I just -- **23** MS. DUVALL: Okay. In Lander County as far as **24** the fiber optics we too have no argument that they should be **25** a 15-year life. We did also put them out at 15 years. And **Page 218 1** based on the directive letter from the Department of **2** Taxation. **3** However, I do feel that the distribution plants **4** if personal property, and I state if because I have real **5** concerns about what is personal property and what is real **6** property, buildings, and structures if they are deemed to be **7** real property they have a 50-year life schedule just like all **8** other real property for all other taxpayers, not just **9** Telecommunications. And the conduit should be based on the **10** Personal Property Manual should be a 30-year life. I'm not **11** in disagreement with any of that. **12** I am in agreement with following the Personal **13** Property Manual because it was adopted by the state Tax **14** Commission and it's been the manual that we use for decades **15** for these type of items. I realize some things are not **16** really specific, however, I think it's pretty clear there's **17** not a discrepancy on what is considered distribution **18** equipment and what is the fiber optics computer items at a **19** five-year life, specifically I have no problem. **20** But I do have concerns about things that **21** telecommunication companies would like to call personal **22** property. If you do the test, do you disturb the area around **23** it, do you destroy other things by removing it. And if you **24** do, it's real property. So if you are going to say the **25** conduit in the ground is personal property and there would be **Page 219 1** no disturbance of the ground by removing it, I would argue **2** that point. **3** So I think there has not been a lot of discussion **4** about the guidance letter because it says, you know, for **5** items that are deemed to be or considered by the assessor to **6** be real property, there should be a 50-year life just like **7** every other property, houses, garages, sheds, patios, decks, **8** concrete. I mean, we can sit here and argue all day is my **9** old tin shed classified as real property with a 50-year life, **10** is it going to last that long. They've got buildings that **11** have been there for more than 50 years and they're saying **12** they should be a 15-year life. Well, how can they still be **13** standing? Why are they still using them? Why are they a **14** viable part of, you know, their equipment? If they're only **15** 15 years, why are they still there? They should have fallen **16** down; right? **17** That would be my concern and my issue is the **18** argument with what's real property and what's personal **19** property. But as far as the rest of it goes, I feel we **20** should adhere to the Personal Property Manual and two wrongs **21** don't make a right. And I agree the stipulated grievance **22** that granted in to there was no discussion about the **23** methodology so we don't know what was done or what wasn't **24** done in other counties. And I certainly wouldn't kick them **25** to the curb without knowing that.

further discussion was needed on whether conduit was real or personal property, but otherwise agreed with a 15 year life. The Churchill County Assessor, Norma Green, believed conduit and equipment shelters met the fixture test and therefore are real property. She placed them on the roll with a 50 year life based on the fixture test in the Personal Property Manual. She agreed with a 15 year life for fiber optic cable.<sup>17</sup>

The Lincoln County Assessor, Melanie McBride, used a 15 year life for fiber optic cable and conduit, but used a 50 year life for equipment shelters. The Humboldt County Assessor, Jeff Johnson, used a 50 year life on the conduit and fiber, based on his understanding of the Department's letter. The White Pine County Assessor, Deborah Underwood, used a 50 year life for the poles, conduit and fiber optic cable, also based on her understanding of the Department's letter, plus her experience that some of the equipment in her county had been in place since the 1950's and the 1970's. The Pershing County Assessor, Celeste Hamilton, used a 50 year life for everything. Chief Deputy Theresa Wilkins of the Washoe County Assessor's Office, stated her office initially valued the properties using a 50 year life, but stipulated to a 15 year life. Laurie Goodman of the Clark County Assessor's office stated her office valued fiber optic cable and conduit using a 15 year life.<sup>18</sup>

<sup>17</sup> *Tr., 10-9-14, p. 220, l. 1 through p. 223, l. 10:* CHAIRMAN WREN: We haven't heard the evidence 2 so -- Okay. Thank you. Just when you thought I didn't think 3 you were back there. 4 MS. LEE: For the record, Ruth Lee, Esmeralda 5 County assessor. Chairman Wren, I don't know if you want me 6 to go in to I did it and then I amended it the way the 7 guidance letter went and then I amended it again. And I am 8 using the 15-year for the conduit and the fiber both because 9 I don't have a lot of the issues that everybody else has. I 10 don't have buildings. I've got basically junk cable on the 11 side of one of my areas near California and that's it. And 12 then I did five-year on the switches. 13 CHAIRMAN WREN: You don't have any poles or 14 cables or anything? 15 MS. LEE: No, sir, I have nothing like that. 16 CHAIRMAN WREN: I've been to your county. I 17 believe that. 18 MS. LEE: Yes. 19 CHAIRMAN WREN: Okay. But what is your 20 interpretation of the handbook? 21 MS. LEE: Well, I would have gone with the 22 telecommunications and because the cable and the fiber are 23 hooked together, they can be yanked out at any point in time. 24 It's on the edge of the county. It's really old there, you 25 know. 1 CHAIRMAN WREN: Okay. That's fair. Good. Thank 2 you. 3 MS. LEE: Uh-huh. 4 CHAIRMAN WREN: One or both. You're up first. 5 MR. MEARS: For the record Michael Mears, 6 M-e-a-r-s, Eureka County. We originally put ours on with a 7 50-year life on the fiber and conduit. When we had 8 discussions with the taxpayer after they had received their 9 bills and realized that those bills had essentially almost 10 tripled, we went back and looked at it. I discussed it with 11 my colleague in Washoe County, Josh. And discovering that 12 they were going to put everything on a 15, we determined we 13 would do the same. So as you know because it's in your 14 packet, we did stipulate with AT&T. 15 And at this point having heard from Terry today, 16 I think there's definitely some argument to be made and some 17 discussion to be had as to whether conduit should be 18 considered real property or not and what life schedule we 19 should be putting on that. As a network person for Eureka 20 County, we have a lot of pipe in the ground and we move cable 21 in and out of it all the time. We don't move the pipe. The 22 pipe stays in the ground. 23 So I think, again, moving forward this is 24 definitely something that we would like to all have 25 clarification. The bottom line for all 17 of us is just that Page 222 1 we're doing it the same so we're not sitting in front of this 2 board every year arguing over how we did the buildings, how 3 we did the conduit. That's where Katrinka is spot on. We 4 just want to know what you want us to do, what does the Tax 5 Commission want us to do. We just want to make sure we're 6 doing it correctly and the same as our neighbors. 7 CHAIRMAN WREN: Good. We're trying to figure out 8 how to help you get there. Thank you. 9 MS. GREEN: Norma Green, Churchill County 10 assessor, for the record. What we currently billed, and we 11 haven't stipulated to anything yet, we were waiting for some 12 further guidance, we did fiber optic at 50, we did the 13 conduit at 50, the shelters at 50, the computer equipment at 14 five and the telecommunication equipment at ten. 15 Fiber optic I have no problem being 15. The 16 conduit based on the three-part test in the Personal Property 17 Manual and using the alternative cost, I felt it should be 18 50. 19 CHAIRMAN WREN: Classifying as real property, not 20 personal property. 21 MS. GREEN: Real, not personal property. 22 CHAIRMAN WREN: So far you're the only one who 23 said that all the way across the line. What is your 24 interpretation of how you determine whether or not it's real 25 property or personal property? Page 223 1 MS. GREEN: When you look in the personal 2 property manual, we have I think it's in the beginning of 3 that, right at the beginning of it, we're given instructions 4 to look at that to give it a three-part test and is it 5 permanently affixed in to the ground. I believe the conduit 6 is. I don't think they're typically going to remove that. I 7 think they are going take the fiber in and out but not the 8 conduit. 9 CHAIRMAN WREN: I agree. Okay. Anything else? 10 MS. GREEN: No.

<sup>18</sup> *Tr., 10-9-14, p. 223, l. 13 through p. 226, l. 15.* 13 MS. MCBRIDE: Melanie McBride from Lincoln 14 County. I'm in Las Vegas. 15 CHAIRMAN WREN: Sorry. I had people walking up 16 and I said that's not you. Okay. Go ahead. 17 MS. MCBRIDE: For the fiber optic and the 18 conduit, we have been using 15-year life. I have questions 19 on the shelters still because the description they gave me 20 was it's a pre-cast modular concrete shell that is strapped 21 to the side and dropped on a concrete pad. The concrete pad 22 is real property but the shell isn't, so that's one of my 23 questions. I don't know if that's how Level 3 declared 24 theirs to everyone else. But I used a 50-year life schedule 25 for that. But now I'm questioning whether it should be Page 224 1 personal property because only the concrete pad should be 2 real property. 3 And I'm here for guidance and I want to give 4 kudos to Katrinka for asking most of the questions that all 5 of us had. 6 CHAIRMAN WREN: I was kind of proud of her too. 7 Leave it to Elko County, right. Okay. Thank you very much. 8 Jeff. 9 MR. JOHNSON: For the record, Jeff Johnson, 10 Humboldt County assessor. We costed everything at the 11 50-year life, the conduit, the fiber, all of that stuff. We 12 did it according to the guidance letter. We actually -- The 13 association had all talked about what we were going to do and 14 it was my understanding we all agreed it was going to be a 15 50-year life, so we Case No. 14-306, 307, 308, 309, 310, 311, 312, 313  
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The State Board indicated regulation workshops should be held on the telecommunication asset lives.<sup>19</sup>

The State Board, having considered all evidence, documents and testimony pertaining to the valuation of the property in accordance with NRS 361.227, hereby makes the following Findings of Fact, Conclusions of Law and Decision.

### FINDINGS OF FACT

- 1) The State Board is an administrative body created pursuant to NRS 361.375.
- 2) The State Board is mandated to hear all appeals of property tax assessments pursuant to NRS 361.360 and NRS 361.400.
- 3) The Taxpayer and the Assessor were given adequate, proper and legal notice of the time and place of the hearing before the State Board, and the matter was properly noticed pursuant to the Open Meeting Law at NRS 241.020. *See Record, SBE page 21.*
- 4) The subject property consists of telecommunications property, including conduit systems, fiber optic cable, central office equipment, facility equipment, racks and cabinets, and station equipment located throughout Elko County, Nevada.<sup>20</sup> *See Record, SBE pages 12-14.*

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put it on that way and left it that way. 16 CHAIRMAN WREN: Okay. Perfect. You're wrong. 17 MR. JOHNSON: Apparently. It's not the first 18 time. 19 MS. UNDERWOOD: Debbie Underwood from White Pine 20 County assessor. We did the poles, the conduit, the fiber 21 optic all at a 50-year life for the same reason why Jeff 22 said, that we felt that the guidance was there. And I felt 23 that it was supported by the dates that was given of how long 24 that equipment had been in place. We have some clear back to 25 1950s, the '70s, so we felt that that was reasonable to use a 50-year life. 2 CHAIRMAN WREN: Okay. Thank you. I won't tell 3 you you're wrong. I just tell Jeff that. 4 MS. HAMILTON: I'm Celeste Hamilton. I'm the 5 Pershing County assessor. And that's C-e-l-e-s-t-e Hamilton. 6 And this makes three of us that have all done it the same 7 way: Jeff, me and Debbie. It's the 50-year life for 8 everything. 9 CHAIRMAN WREN: Okay. All right. Good. Thank 10 you very much. I appreciate that and I appreciate your 11 answers too. Did I get everybody? Does Washoe County want 12 to chime in since you're here? 13 MS. WILKINS: Good afternoon. For the record 14 Teresa Wilkins, Washoe County chief deputy assessor. Washoe 15 County initially did value the properties in question using 16 the 50-year life. Based on the additional information, we 17 revalued it and our stipulated values do reflect that recost 18 in to the 15 years. 19 CHAIRMAN WREN: Okay. Thank you. And who's in 20 Clark County? Who's in Las Vegas? Everybody here left. 21 MS. GOODMAN: Lori Goodman with the Clark County 22 Assessor's Office. 23 CHAIRMAN WREN: Hi. Do you want to address this 24 for us? 25 MS. GOODMAN: They moved the camera. Our -- Page 226 1 Basically the value that we stipulated to was the 2 reclassification on the taxpayer's report from the central 3 office equipment to the computer-based switching equipment. 4 We had originally valued the fiber and conduit in a 15-year 5 life. I toured all of the facilities that they have here. 6 Most of them are the stiff-type buildings that are on the 7 concrete pads, so the four shelters that we don't have on 8 real property records here I did take it the 15-year life. 9 CHAIRMAN WREN: Okay. And your underground 10 conduit is 15 years also? 11 MS. GOODMAN: Correct. 12 CHAIRMAN WREN: 15, okay. All right. Thank you. 13 MS. GOODMAN: 15, yes. 14 CHAIRMAN WREN: 15, okay. 15 MS. GOODMAN: Thank you.

<sup>19</sup> *Tr., 10-9-14, p. 266, ll. 11-21:* 11 MS. GREEN: I'm retiring, so I can say it. Norma 12 Green, Churchill County assessor for the record. The only 13 thing I guess I dispute is the conduit because we've been 14 referring to the personal property manual and the 30-year 15 life, which if you deem it personal property I have no 16 problem with that. But if you stay conduit is real then I 17 think it should be the 50-year, where I think the conduit 18 should be 50-year. 19 CHAIRMAN WREN: And that's why I want to have a 20 workshop to address that specifically and put specific labels 21 on these. Churchill retiring. *See also Tr., 10-9-14, p. 268, ll. 21-22:*

21 All right. Thank you very much. I encourage you 22 guys if you would when you do these workshops --  
<sup>20</sup> *Tr., 10-9-14, p. 179, l. 21-180, l. 12:* 21 MS. RUSSELL: The property is spread out through 22 Elko County, many different tax districts. So would you like 23 me to identify the property by the account number? 24 CHAIRMAN WREN: Is the same case -- the same 25 argument going to be through all the cases? Page 180 1 MS. RUSSELL: That is correct. 2 CHAIRMAN WREN: Why don't you identify the one 3 that you want us to follow then? 4 MS. RUSSELL: Okay. 5 CHAIRMAN WREN: And I'm assuming that it's okay 6 with everybody that we consolidate. 7 MS. RUSSELL: So with Level 3 Communications we 8 have Case Number 307 and then we have Case Number 308, 309, 9 310, 311, 312, 313. These accounts have Telecommunications 10 equipment located in different tax areas throughout the 11 county. The reason for appeal is based on the type of life 12 schedule that was used in calculating the depreciation.



- 5) The Assessor originally classified fiber optic cable and conduit as real property and valued the property using a depreciable life of 50 years. Computer switch equipment was valued as personal property using a five-year life in the Personal Property Manual. Telecommunications equipment shelters were valued as real property using a 50 year life. The Assessor provided an alternative calculation using a 15 year life on fiber optic cable and conduit. See *Tr.*, p. 226, l. 24 through p. 228, l. 4.
- 6) The State Board found the fact that the Clark and Washoe County Assessors stipulated to a value based on a 15 year life for conduit and fiber optic cable; and a set value of \$49,000 for shelters, was not determinative of the appropriate depreciable life for those types of property. The State Board found the standard for the valuation of personal property was the Personal Property Manual adopted by the Nevada Tax Commission.<sup>21</sup>
- 7) The State Board found conduit was distribution equipment subject to a 30 year life as listed in the Personal Property Manual. It further found the Personal Property Manual lists fiber optic cable at a 15 year life; and computer switch equipment at a 5 year life. See *Page 34, 2013-14 Personal Property Manual*.
- 8) The State Board found that telecommunication equipment shelters are not personal property because they are structures permanently affixed to the ground with foundations; and should be treated as real property with a 50 year economic life pursuant to NRS 361.227(1)(b).<sup>22</sup>
- 9) Any finding of fact above construed to constitute a conclusion of law is adopted as such to the same extent as if originally so denominated.

<sup>21</sup> See *Tr.*, 10-9-14, p. 232, l. 8 through p. 233, l. 12: 8 MEMBER MESERVY: You know, my concern is that, 9 you know, I was given this job to follow the law and I can't 10 go around making up, you know, just because somebody did it 11 wrong that we all of a sudden let it go and let everyone else 12 do it wrong and the next time. You know, I really think this 13 is one that they need to have a pow-wow of some sort and get 14 with all of these counties and figure out how we can apply 15 this property and make sure that everyone understands the 16 rules. 17 But I think it's there and I don't have any 18 problem with the changes on this one, other than the 15-year 19 on underground conduits. But rather -- I feel like that 20 should be 30 based on what it's saying in the manual. But I 21 personally don't agree with just because we've let it slide 22 on others. There's a lot of evaluations that get slid every 23 year, but I don't think we should be the board that lets it 24 be known that we're just going to go along with what 25 happened. I think we need to go with what should be, so **Page 233 1** that's just my bits. 2 CHAIRMAN WREN: Aileen? 3 MEMBER MARTIN: I agree with Dennis. 4 CHAIRMAN WREN: Okay. Ben? 5 MEMBER JOHNSON: I largely agree with Aileen and 6 Dennis here. I don't think a negotiated settlement between 7 other parties is meaningful for us to make our decision based 8 on. I think we have to do what's right based on the facts in 9 front of us and we have the real property manual, Personal 10 Property Manual. We've taken a lot of testimony. I think 11 what we have here in front of us is enough to make a 12 decision.

<sup>22</sup> See *Tr.*, 10-9-14, p. 233, l. 14 through p. 235, l. 13: 14 MEMBER MESERVY: If I understood it well, I think 15 the only place that we're in disagreement with what they're 16 asking is the 15 years to move it back to 30 on the 17 underground conduits. I think that's the only difference. 18 MEMBER JOHNSON: And the shelters. 19 MEMBER MESERVY: Okay. The shelters was the 20 other part. That one I'm not sure how to address because 21 that could be -- 22 CHAIRMAN WREN: Before you make a comment or 23 motion, let me address that from my perspective. And I'll 24 tell you, first of all, that I agree with you raising your 25 thought that the conduit per the book is 30 years. That's **Page 234 1** where it should be, regardless if anything else has happened 2 out there. It's our job to follow the handbook also. So I 3 agree with the 30 years. 4 As far as the buildings, the SCIF buildings or 5 whatever you want to call them, they're concrete buildings 6 that are concrete foundations with a crane. The definition 7 of real property is something that is rather permanently 8 affixed. If you have to take a crane to put something on 9 something, that's rather permanently affixed. So I agree 10 with the three counties that have assessed those at 50, I 11 agree with them. I consider it real property. 12 MEMBER MESERVY: And I have no problem with that. 13 I agree. 14 CHAIRMAN WREN: Okay. 15 MEMBER MESERVY: But I'm not sure how to make a 16 motion but maybe somebody can help me with that. 17 MEMBER JOHNSON: I will make the motion then in 18 Case 14-306, 307, 308, 309, 310, 311, 312 and 313 that we 19 find that the conduit should be valued based on personal 20 property manual which indicates a 30-year economic life and 21 that the telecommunication equipment shelters are real 22 property and should be treated as real property and have a 23 50-year economic life. 24 MEMBER MARTIN: So the fiber optic stays at 15? 25 MEMBER JOHNSON: Correct. **Page 235 1** MEMBER HARPER: And the computer at five. 2 MEMBER MARTIN: And central office equipment will 3 stay at five years? 4 MEMBER JOHNSON: Yes. Correct. 5 CHAIRMAN WREN: Okay. Second? 6 MEMBER MARTIN: Second. 7 CHAIRMAN WREN: Further discussion. All in favor 8 say aye. 9 MEMBER MESERVY: Aye. 10 MEMBER MARTIN: Aye. 11 MEMBER JOHNSON: Aye. 12 CHAIRMAN WREN: Opposed? 13 MEMBER HARPER: Nay. 14 CHAIRMAN WREN: Motion carries. Okay.

## CONCLUSIONS OF LAW

- 1) The Taxpayer timely filed a notice of appeal, and the State Board accepted jurisdiction to determine this matter.
- 2) The Taxpayer and the Assessor are subject to the jurisdiction of the State Board.
- 3) The State Board has the authority to determine the taxable values in the State.
- 4) The subject property is appraised at the proper taxable value as corrected by the State Board in accordance with NRS 361.227 for the 2013-2014 tax year. The assessed value is 35% of the taxable value.
- 5) The Nevada Tax Commission has a duty to adopt general and uniform regulations governing the assessment of property by the county assessors, county boards of equalization, the State Board of Equalization and the Department. See *NRS 360.250(1)*; *State v. Bakst*, 122 Nev 1403, 1417 (2006).
- 6) An assessor must certify under penalty of perjury that in assessing property he or she has complied with the regulations of the Nevada Tax Commission. See *NRS 360.250(3)*. In addition, all county assessors must adopt and put in practice the manuals and regulations established and prescribed by the Nevada Tax Commission governing the assessment of property. See *NRS 360.280*.
- 7) The Nevada Tax Commission shall, by regulation, establish standards for determining the cost of replacement of improvements of various kinds, and shall establish standards for determining the cost of replacement of personal property of various kinds and schedules of depreciation for personal property based on its estimated life. See *NRS 361.227(6)*. The Nevada Tax Commission adopted the Personal Property Manual.<sup>23</sup> *NAC 361.1361*; *NAC 361.1365*.
- 8) Real property is defined as including buildings, structures, and other improvements built or erected upon any land. See *NRS 361.035(1)(a)*; *NAC 361.11715*.
- 9) *NRS 361.227(1)(b)* requires the full cash value of any improvements made on the land to be determined by subtracting from the cost of replacement of the improvements all applicable depreciation and obsolescence. Depreciation of an improvement made on real property must be calculated at 1.5 percent of the cost of replacement for each year of adjusted actual age of the improvement, up to a maximum of 50 years.
- 10) Any conclusion of law above construed to constitute a finding of fact is adopted as such to the same extent as if originally so denominated.

## DECISION

<sup>23</sup> *Tr. 10-9-14, p. 197, ll. 15-22: 15* CHAIRMAN WREN: Okay. So who approves the **16** personal property? This is out of the Personal Property **17** Manual; right? **18** MS. RUBALD: It's out of the Personal Property **19** Manual. The Personal Property Manual has a workshop every **20** year and then it's taken a month later to the Nevada Tax **21** Commission for approval. And these lives have basically **22** remained unchanged for several years.

The Petition of the Taxpayer is granted in part based on the above Findings of Fact and Conclusions of Law. The Elko County Comptroller is instructed to correct the assessment roll by adjusting the assessed valuation of the subject property as follows:

**2013-2014 Unsecured Roll**

Case No.	Petitioner	County	Account #	Taxable Value	Assessed Value	Taxable Value Revised by State Board	Assessed Value Revised by State Board
14-306	Level 3	Elko	213231	\$3,349,388	\$1,172,286	\$1,849,289	\$647,251
14-307	Level 3	Elko	213232	77,251	27,038	35,029	12,260
14-308	Level 3	Elko	213295	131,286	45,950	95,106	33,287
14-309	Level 3	Elko	213296	289,166	101,208	189,960	66,486
14-310	Level 3	Elko	213303	17,420	6,097	13,603	4,761
14-311	Level 3	Elko	213304	114,086	39,930	48,892	17,112
14-312	Level 3	Elko	213307	1,309,683	458,389	1,309,683	458,389
14-313	Level 3	Elko	213308	492,646	172,426	492,646	172,426
<b>Subtotal, Level 3, Elko</b>				<b>\$5,780,926</b>	<b>\$2,023,324</b>	<b>\$4,034,208</b>	<b>\$1,411,973</b>

The Elko County Comptroller is instructed to certify the assessment roll of the county consistent with this decision.

BY THE STATE BOARD OF EQUALIZATION THIS 12<sup>th</sup> DAY OF DECEMBER, 2014.

*Deonne G. Contine*

Deonne Contine, Secretary  
DC/ter

**In The Matter Of:**

*Department of Taxation - State Board of Equalization  
Public Meeting*

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*Thursday  
October 9, 2014*

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*Capitol Reporters  
208 N. Curry Street*

*Carson City, Nevada 89703*

Original File 100914.txt

**Min-U-Script® with Word Index**

<p style="text-align: right;">Page 173</p> <p>1 CHAIRMAN WREN: Okay. And I want it explicitly 2 understood that we're going to rehear the case as it was 3 actually presented with the same witnesses, the same 4 testimony. I don't want any new evidence. I don't want any 5 new discussion. I want to hear the case exactly like we 6 heard it last time, okay. Okay. All in favor say aye. 7 (The vote was unanimously in favor of the motion) 8 CHAIRMAN WREN: Opposed? Motion carries 9 unanimously. Okay. Thank you very much. 10 MR. BANCROFT: Thank you. 11 CHAIRMAN WREN: Thank you for your time. 12 Okay, Terry. 13 MS. RUBALD: Mr. Chairman, the next item is 14 number two under Section G. It's the remand from the First 15 Judicial District Court, Department 1, Case Number 16 13OC003201B regarding the order after hearing dated June 20th 17 2014 directing the state board to remand the matter to the 18 Washoe County Board of Equalization in the matter of 19 Dillard's International, Incorporated versus the State Board 20 of Equalization, Washoe County and the Washoe County 21 assessor. State Board Case Numbers 13-261, 13-262, 13-263 22 and 13-264. 23 CHAIRMAN WREN: I had heard rumors that there was 24 properly -- might be a stipulation or something here. Yes? 25 No?</p>	<p style="text-align: right;">Page 175</p> <p>1 why they just didn't do it themselves. 2 MS. BUONCRISTIANI: Out of respect. 3 CHAIRMAN WREN: They respect us? Whoa, let's do 4 this officially right then. 5 MEMBER JOHNSON: Mr. Chairman, in this case I 6 make a motion that we remand them in accordance with the 7 Court's order to the County Board of Equalization for further 8 proceedings. 9 CHAIRMAN WREN: Okay. Is there a second? 10 MEMBER HARPER: Second. 11 CHAIRMAN WREN: Discussion? All in favor say 12 aye. 13 (The vote was unanimously in favor of the motion) 14 CHAIRMAN WREN: Opposed? The motion carries 15 unanimously. 16 Call the next case, please. 17 MS. RUBALD: Mr. Chairman, I'd like to call 18 several cases from Section H. These are direct appeals from 19 the actual county assessor for the 2013-2014 unsecured roll. 20 All of the cases in Section H beginning with 14-319, Level 3 21 Communications, which is Telecommunications Property, and 22 also the case number -- everything between 14-319 and 14-327 23 are all Level 3 Communications cases in Washoe County. Case 24 Number 14-376, AT&amp;T Mobility, is also Telecommunications 25 Property in Washoe County. Case Number 14-378 is Nevada Bell</p>
<p style="text-align: right;">Page 174</p> <p>1 UNIDENTIFIED SPEAKER: No. 2 CHAIRMAN WREN: Okay. That's fine. 3 Let her read the remand first. Go ahead. 4 MEMBER MARTIN: Mr. Chairman and Board Members, 5 I'd like to recuse myself from hearing this case. 6 CHAIRMAN WREN: All right. Thank you. 7 MS. BUONCRISTIANI: Terry has already identified 8 the district court case number and the state board case 9 numbers and this is what the Court has ordered. It is hereby 10 ordered that the decision of the state board is vacated based 11 upon the finding that the written decision letter is 12 insufficient pursuant to the requirements of NRS 233B.125 to 13 allow the Court to review the administrative decision. This 14 case is remanded to the state board with instructions to the 15 state board to remand the matter back to the county board. 16 On remand, the county board must go through the 17 proper procedures discussed above. All of the pertinent 18 determinations that the county board must be supported by 19 substantial evidence in the record and be set forth in a 20 written decision. 21 It's saying that it's being remanded to the state 22 board for the state board to remand it to the county board. 23 CHAIRMAN WREN: So remanded. Okay. Hold on. It 24 just sounded so easy. We need a motion to follow the Court's 25 direction for us to remand it to the county. I don't know</p>	<p style="text-align: right;">Page 176</p> <p>1 Telephone Company doing business as AT&amp;T Nevada, also in 2 Washoe County. Case Number 14-379, AT&amp;T Communications, is 3 Telecommunications Property in Washoe County. 4 And then starting with Case 14-329 through Case 5 14-362 are all Level 3 Communications in Clark County. And 6 all of those have been -- there are stipulated agreements 7 that you need to consider. 8 MEMBER MESERVY: What about also 363, 364 and 9 365? 10 MS. RUBALD: 363, 364 and 365 have been 11 withdrawn. 12 MR. BANCROFT: In grouping the cases instead of 13 calling all of them at once, it may be preferable to do it by 14 county because the issues may be different and we may have 15 different questions by county. 16 MS. RUBALD: For stipulated agreement? 17 MR. BANCROFT: Well, we had separate stipulations 18 with each of the counties. And to some extent, they may 19 cover slightly different things, so I just want to make sure 20 that the board is clear. 21 CHAIRMAN WREN: I appreciate that, but since 22 they're stipulated to, unless you want us not to agree, we're 23 just going to accept the stipulations, unless you want to 24 argue. So I appreciate what you're saying, but there's no 25 sense in muddying the water. If you've stipulated and both</p>

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1 sides have signed the stipulations, we're not going to argue  
2 with them, unless you want us to. Do we get paid for that?  
3 Wait. Do we get paid for that?  
4 MR. BANCROFT: That's fine.  
5 CHAIRMAN WREN: Okay. Everybody, both sides are  
6 in agreement with all the stipulations in all the counties;  
7 correct?  
8 MS. RUBALD: And Mr. Chairman, for the record I  
9 think Clark County is represented by Mr. Scott down on video  
10 conference.  
11 CHAIRMAN WREN: Identify yourselves, please. We  
12 can't hear you.  
13 MR. SCOTT: Good afternoon. This is Doug Scott  
14 representing Clark County Assessor's Office. Can you hear me  
15 okay?  
16 CHAIRMAN WREN: Yes.  
17 MS. GOODMAN: Laurie Goodman with the Clark  
18 County Assessor's Office.  
19 CHAIRMAN WREN: Have you been sworn in?  
20 MR. SCOTT: Yes, we have.  
21 MS. GOODMAN: Yes.  
22 MR. BANCROFT: Would you like us to state our  
23 appearance for the record?  
24 CHAIRMAN WREN: Yes, please.  
25 MR. BANCROFT: Paul Bancroft and Bill McKean from

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1 Lionel, Sawyer and Collins appearing on behalf of Level 3  
2 Communications, AT&T Mobility, LLC, Nevada Bell Telephone  
3 Company and AT&T Communications.  
4 CHAIRMAN WREN: Okay. Thank you.  
5 MR. STAFFORD: And Mark Stafford for the Washoe  
6 County Assessor's Office.  
7 CHAIRMAN WREN: Okay. Anybody want to make any  
8 comments about the stipulations? Everybody agrees to them?  
9 Okay. Close the cases. Entertain a motion.  
10 MEMBER MESERVY: With regarding to the cases  
11 called in Section H that Terry has already called, my motion  
12 is that we accept the stipulated agreements as signed.  
13 MEMBER HARPER: Second.  
14 MS. BUONCRISTIANI: The stipulated agreement  
15 values.  
16 MEMBER MESERVY: I'm sorry. The stipulated  
17 agreement values is what I meant.  
18 MS. BUONCRISTIANI: Thank you.  
19 MEMBER HARPER: Re-second.  
20 CHAIRMAN WREN: Discussion. All in favor say  
21 aye.  
22 (The vote was unanimously in favor of the motion)  
23 CHAIRMAN WREN: Opposed? Motion carries  
24 unanimously. Okay. Thank you.  
25 MS. RUBALD: Mr. Chairman, the next group of

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1 cases I'd like to call are 14-306, 14-307, 14-308, 14-309,  
2 14-310, 14-311, 14-312 and 14-313. They are all Level 3  
3 Communications, Telecommunications Property. And the Elko  
4 County Assessor is the respondent. I should also add that in  
5 these cases there are -- there is new evidence from the  
6 assessor.  
7 CHAIRMAN WREN: Okay. Are you ready? Okay  
8 there's new evidence. First of all, identify yourself,  
9 please.  
10 MS. RUSSELL: Katrinka Russell with Elko County.  
11 CHAIRMAN WREN: Okay. If you would give us the  
12 standard of law for new evidence, please.  
13 MS. BUONCRISTIANI: NAC 361, this is introduction  
14 of new evidence. If this is a direct appeal it's not new  
15 evidence. Is this a direct appeal?  
16 MR. BANCROFT: Correct, yes.  
17 MS. BUONCRISTIANI: There's no new evidence in a  
18 direct appeal.  
19 CHAIRMAN WREN: Okay. Go ahead and identify the  
20 property, please.  
21 MS. RUSSELL: The property is spread out through  
22 Elko County, many different tax districts. So would you like  
23 me to identify the property by the account number?  
24 CHAIRMAN WREN: Is the same case -- the same  
25 argument going to be through all the cases?

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1 MS. RUSSELL: That is correct.  
2 CHAIRMAN WREN: Why don't you identify the one  
3 that you want us to follow then?  
4 MS. RUSSELL: Okay.  
5 CHAIRMAN WREN: And I'm assuming that it's okay  
6 with everybody that we consolidate.  
7 MS. RUSSELL: So with Level 3 Communications we  
8 have Case Number 307 and then we have Case Number 308, 309,  
9 310, 311, 312, 313. These accounts have Telecommunications  
10 equipment located in different tax areas throughout the  
11 county. The reason for appeal is based on the type of life  
12 schedule that was used in calculating the depreciation.  
13 CHAIRMAN WREN: Okay. So what I'll do now that  
14 you've identified the property is I'll let the petitioner put  
15 on their case and then I'll come back to you.  
16 MEMBER JOHNSON: Did you mean to include Case 306  
17 as well, 14-306? I didn't hear her say that. I thought she  
18 started with 307.  
19 CHAIRMAN WREN: She did.  
20 MEMBER MESERVY: She didn't say 306.  
21 MS. RUSSELL: I'm sorry. 306 through 313.  
22 MEMBER JOHNSON: Okay. Good. I just wanted to  
23 make sure we're all on the same page.  
24 CHAIRMAN WREN: So which one are we going to  
25 follow, 306 or 307? Okay. Let's follow 307. And I



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1 entertain a motion that we consolidate these cases and the  
2 testimony.  
3 MEMBER MESERVY: With all the slight that we just  
4 heard on 14-306, 14-307, 14-308, 14-309, 14-310, 14-311,  
5 14-312, 14-313, my motion is that we consolidate them all to  
6 this case using 14-307.  
7 CHAIRMAN WREN: Is there a second?  
8 MEMBER MARTIN: Second.  
9 CHAIRMAN WREN: Discussion? All in favor say  
10 aye.  
11 (The vote was unanimously in favor of the motion)  
12 CHAIRMAN WREN: Opposed? Motion carries.  
13 Okay, go ahead, sir.  
14 MR. BANCROFT: Thank you. Level 3 Communications  
15 is a telecommunication company that was formerly centrally  
16 assessed by the Department of Tax. This is the first year  
17 that it moved to local assessment and was assessed by the  
18 individual counties. What it owns in Elko County is a fiber  
19 optic route that is buried in the ground and that's why it  
20 appears in multiple taxing jurisdictions. The conduit is  
21 laid in the ground and then a fiber optic cable is threaded  
22 through the conduit. It's that property that's being valued  
23 in this case.  
24 And in reporting the property, some  
25 inconsistencies were discovered among the counties. We

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1 worked with Washoe. We worked with Clark. And that's why  
2 those cases were settled.  
3 The -- If you turn to the assessor's, what's  
4 labeled at SBE-1, the assessor's new evidence, this --  
5 there's an e-mail cover sheet and then after that the summary  
6 revisions. But the next page shows here's the personal  
7 property rendition and how they treated different categories  
8 of property.  
9 CHAIRMAN WREN: I'm sorry. Let me catch up with  
10 you.  
11 MR. BANCROFT: SBE-4.  
12 CHAIRMAN WREN: I know. But 14 what?  
13 MEMBER HARPER: It's all the cases.  
14 MEMBER MESERVY: It's got them all together.  
15 CHAIRMAN WREN: I know. But it's not new  
16 evidence.  
17 MEMBER MESERVY: It's 13-6.  
18 CHAIRMAN WREN: All right.  
19 MR. BANCROFT: It's SBE-4.  
20 CHAIRMAN WREN: Okay.  
21 MR. BANCROFT: And so the issues that came up not  
22 just in Elko but in all the counties boiled down to three  
23 issues that appear in Elko. No. Four issues. One is what  
24 is the appropriate depreciable life for conduit that's buried  
25 in the ground. In the stipulation that we just approved for

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1 Washoe County and Clark County, the stipulation provided for  
2 a 15-year depreciable life pursuant to the personal property.  
3 The second category, and you'll see it on page --  
4 The second category is fiber optic cable, which is a, again,  
5 in the stipulation with Clark and Washoe is a 15-year life.  
6 On these schedules, the Elko County assessor has moved both  
7 of those categories to a 15-year life. We're in agreement on  
8 that.  
9 The third category of personal property, and this  
10 appears on SBE-4, was initially reported as central office  
11 equipment because the personal property manual didn't have a  
12 lot of categories in which to put stuff. And since this was  
13 the first time reporting, Level 3 wasn't sure how to label  
14 this category of equipment that it put in there. It put in  
15 central office equipment, which resulted in a 15-year  
16 depreciable life.  
17 But after explaining to the folks in Clark County  
18 and Washoe County the nature of this equipment, it's actually  
19 computer-based optical transmission equipment, it was moved  
20 to a five-year life. So the stipulation in both Washoe  
21 County and Clark County moved that category to a five-year  
22 life, which is what we're asking for here.  
23 And the Elko County assessor has highlighted  
24 those line items on the personal property sheet that deal  
25 with this switch from central office equipment to

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1 computer-based optical transmission equipment.  
2 And the final item on the personal property  
3 schedule is the telecommunication equipment shelter. I'm not  
4 sure if you're familiar with what a telecommunications  
5 equipment shelter is, but it's a pre-cast concrete  
6 rectangular box that's taken on the back of a truck to the  
7 location and it is placed on top of a concrete foundation.  
8 It is just to protect the -- the computer-operated optical  
9 transmission equipment, the equipment that receives the  
10 signal and then energizes it to send it out again along the  
11 conduit.  
12 MS. RUBALD: Mr. Chairman, perhaps before  
13 Mr. Bancroft goes too far along, I have the relevant page  
14 from the Personal Property Manual that he's referring to, a  
15 copy for everyone to use. It might be easier to see it than  
16 to go through this --  
17 CHAIRMAN WREN: Yeah, if you would please. I  
18 know you have some comments on some of this. I'll let him  
19 finish his and then you can do yours if you want.  
20 MS. RUBALD: And for the record, the Personal  
21 Property Manual can be found on the department's website at  
22 tax.state.nv.gov if anybody needs to look at it immediately.  
23 CHAIRMAN WREN: Okay. Go ahead.  
24 MR. BANCROFT: So the fourth category,  
25 telecommunications equipment shelter, Elko County initially

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1 placed it on a 50-year depreciable life schedule. And in our  
2 stipulation with Clark County, Clark County reduced,  
3 essentially reduced the value of all of the equipment  
4 shelters to \$49,000 and placed them on a 15-year depreciable  
5 life schedule.

6 What we're asking is just equal treatment, you  
7 know, if a type of property was reported in one jurisdiction,  
8 it should get the same tax treatment when reported in another  
9 jurisdiction. And we just have four categories in Elko  
10 County that we would like -- the first two issues, the  
11 conduit and the fiber optic cable, they've agreed to make  
12 those adjustments. The second two categories, the switch  
13 from central office equipment to computer-based optical,  
14 she's highlighted those changes so you can see the line items  
15 there. And then that last item is just the telecommunication  
16 shelters, which appear on SBE-10 and SBE-11. They're in  
17 there at acquisition cost, which does not necessarily reflect  
18 the, you know, natural value of these things and that's why  
19 Clark County put them at a uniform \$49,000 per shelter and  
20 the 15-year life instead of a 50-year life. And by doing  
21 that, it would bring Elko in to consistent treatment with  
22 Washoe and Clark.

23 CHAIRMAN WREN: What was the reasoning for going  
24 from the 50-year life to a 15-year life?

25 MR. MCKEAN: Bill McKean for the record, Lionel,

1 and AT&T, were moved to local assessment, they felt as if  
2 they were treated differently and it needed to be corrected.

3 MEMBER MESERVY: Do we have the Personal Property  
4 Manual available?

5 MS. RUBALD: Yes, Mr. Chairman and Mr. Meservy,  
6 yes, you have the Personal Property Manual for 14-15, but I  
7 can testify to the fact that these lives are the same for the  
8 13-14 year and you have to go up to the top where it says NRS  
9 and NAC and SBE hearing guidelines. And in there, the third  
10 from the top is the Personal Property Manual.

11 MEMBER MESERVY: Thank you.

12 CHAIRMAN WREN: Okay. So when these were  
13 centrally assessed, Terry, what was the life? Was it 50  
14 years?

15 MS. RUBALD: Mr. Chairman, centrally assessed  
16 properties are based on a unitary valuation methodology  
17 without regard to the individual pieces of property. So  
18 basically in unitary valuation we take the property plant and  
19 equipment at historic cost less their book depreciation and  
20 compare that to the income approach to see if there's  
21 additional obsolescence. So we did not note individual  
22 lives. But at some appropriate time I would like to testify  
23 as to how this Personal Property Manual is put together.

24 CHAIRMAN WREN: Okay. Good. Thank you. Okay.  
25 Go ahead.

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1 Sawyer, Collins. This issue came to light when we first  
2 received tax bills -- the taxpayers received tax bills.  
3 There wasn't a valuation in December, so the tax bills  
4 started coming out in April and May. And saw a change in the  
5 tax values. Obviously there was some change expected from  
6 central to local assessment, but the tax bills were extremely  
7 off the charts in terms of almost three-fold increase.

8 Working with the Washoe County assessor, we  
9 discovered that they were using a 50-year life and we met  
10 with the Washoe County assessor in the July time frame. And  
11 at that time explained what was happening in Clark County,  
12 had been locally assessed for 15, 20 years. They were  
13 receiving a 15-year depreciation life, consistent with page  
14 34 of the Personal Property Manual.

15 So with that information, we wanted to meet with  
16 the Washoe County assessor and also explain that in Washoe  
17 County Charter Communications has fiber optic cable and  
18 they're receiving the 15-year life. So that convinced Washoe  
19 County that something needed to be done to equalize the  
20 treatment.

21 And so from there, we moved to the other counties  
22 and worked with these assessors and they've been extremely  
23 cooperative. But I think that's the biggest issue was that  
24 there were different standards being applied to the locally  
25 assessed properties. And when these two taxpayers, Level 3

1 MR. MCKEAN: If I may, I do have copies of the  
2 13-14 manual excerpts with page 34 and the items that  
3 Ms. Rubald identified. If it's helpful, I can hand those  
4 out.

5 MS. RUBALD: I just already passed out the same  
6 page.

7 CHAIRMAN WREN: Okay. Good. Thank you. So that  
8 didn't answer my question though. It went from a 50-year  
9 life to a 15-year life. Why?

10 MR. BANCROFT: It didn't -- Some counties did not  
11 go from 50 to 15. And you know, for example the conduit and  
12 fiber optic cable has always been 15-year life in Clark  
13 County. So it didn't go from 50 to 15. It's been 15 for all  
14 of the people that, you know, CenturyLink and all of the  
15 other people who have always been locally assessed, they've  
16 always been on a 15-year life. So in moving Level 3 from  
17 central assessment to local assessment in Clark County, Level  
18 3 got the same treatment as other taxpayers in Clark County,  
19 15-year life.

20 CHAIRMAN WREN: Okay.

21 MR. BANCROFT: But Level 3 has property in  
22 multiple counties. And when it started comparing its tax  
23 bills, it noticed that why do they have, why am I reporting  
24 conduit and fiber optic cable here, why am I getting a  
25 15-year life and I report it here and I get a 50-year life?

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1 And so when that discrepancy was brought to the attention of  
2 Washoe County, they realized, oh, in Washoe County there are  
3 existing taxpayers that they're assessing at 15 years. So  
4 they said we'll drop everybody to 15 to get everybody on the  
5 same page. And if this needs to be addressed we'll do so  
6 through a regulatory process and deal with it on a  
7 going-forward basis. But for equal treatment in the current  
8 year, we'll bring everybody to that 15-year bench mark.  
9 CHAIRMAN WREN: Okay. Anything else? Any  
10 questions?

11 MEMBER HARPER: Mr. Bancroft, on these shelters  
12 you say Clark and Washoe went from 50-year to 15-year. I  
13 don't see on this handout from the personal property tax  
14 manual -- Yeah, I don't see where that falls in. Is this a  
15 new --

16 MEMBER MESERVY: No. He -- Isn't that where --  
17 You're talking about the box?

18 MEMBER HARPER: Yeah.

19 MEMBER MESERVY: That was in the property,  
20 Personal Property Manual, page 34.

21 MEMBER HARPER: We only have 33.

22 MR. BANCROFT: And I'm sorry, Mr. Harper, if I  
23 misspoke. But there were no equipment shelters in Washoe  
24 County. It was only Clark County that I made that comment in  
25 reference to. And that's just the way Clark County treated

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1 these. I can't direct you to where in the manual it says  
2 that's correct.

3 MEMBER HARPER: Okay. So it's relatively unique  
4 in that it hadn't been categorized in the personal property  
5 tax manual.

6 MR. BANCROFT: I don't know. Maybe on page 34.

7 MS. RUBALD: Mr. Chairman, I think it has to do  
8 with whether the assessor determined whether the property was  
9 real property and therefore a 50-year life or whether it was  
10 personal property subject to the lives in the Personal  
11 Property Manual.

12 MEMBER HARPER: And I'm sorry. I understand  
13 that. I just -- I don't see where -- I don't have a 15 next  
14 to anything and I only have page 33. I'm sorry. If it's on  
15 34, I didn't pull it up in front of me.

16 MS. RUBALD: The full manual is on your disc.

17 MEMBER HARPER: Okay.

18 MEMBER MESERVY: It doesn't have a box  
19 specifically, but everything is 15 years or less. And that's  
20 I think the issue really is --

21 (The court reporter interrupts)

22 MEMBER MESERVY: The issue is whether it's real  
23 or personal that makes the difference, it sounds like.

24 MS. RUBALD: And certainly one of the issues --  
25 Would now be a good time to discuss that page, page 33?

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1 CHAIRMAN WREN: Let me do this. I want to  
2 hear -- I want to wait. I want to hear from the county  
3 first. So are you guys done? Okay. Let's go to the  
4 assessor.

5 MS. RUSSELL: Okay. We are here today for  
6 guidance in regard to how to do the telecommunication assets  
7 and how they need to be handled. I would just like to review  
8 the reason for appeal. The telecommunications community have  
9 filed the appeal on the assessed value due to the methodology  
10 that was used in assessing the personal property.

11 In the past, the assessments were done by the  
12 Department of Taxation based on a unitary method. When it  
13 was found that per NRS 361.320 Number A that some of the  
14 telecommunication companies were to be assessed at the local  
15 level, the counties had several meetings in regard to the  
16 assessments and how to value this equipment.

17 On August 13th 2013, a letter from Washoe County  
18 was sent to the department for clarification. A guidance  
19 letter from the department was sent out on September 10th  
20 2013 approving the alternative methodology for the  
21 telecommunications equipment. And that was to be based on a  
22 50-year life.

23 The telecommunications companies feel that it's  
24 not a fair assessment of the real and personal property. I  
25 would like to request that the board review the equipment

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1 used by the telecommunications company, provide specific  
2 guidelines on the life schedule to be used on this equipment.  
3 In order to maintain conformity and equity, all the counties  
4 can take its ruling and go back, recalculate the 2013  
5 property assessments and either rebill or refund accordingly.

6 The other thing I have an issue with is applying  
7 a five-year life to an item that was purchased in 1982, 1988.  
8 These items are over 20 years old. How do we account for  
9 that? Years ago we had to take a look at personal property  
10 equipment used by mining and we had to change the personal  
11 property life schedule. Because when you compare heavy  
12 equipment that was used by the contractors, that was on a day  
13 to day. Well, that same heavy equipment that was used by the  
14 mining company, that was used on a 24-hour basis. So we did  
15 have to go back, take a look at that. And I'm wondering if  
16 we need to do that with the telecommunications companies.

17 You know, how about the fiber optic and conduits  
18 that are buried in the ground? Would that be defined as  
19 permanent? Sure, maybe it's not all in the ground. Do we  
20 need to have that broken out? It's my feeling that we should  
21 review the life schedules on the equipment used by the  
22 telecommunications companies for accuracy and fairness.

23 Another area that we should review at this time  
24 is the telecommunications shelters. I would like some  
25 guidance on whether we should be complying with the request

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1 to apply obsolescence to these buildings. If so, what kind  
2 of obsolescence and how should it be calculated? You know,  
3 one of my kids is grown and gone, my house is too big and  
4 empty since she took all of her furniture. Should I apply  
5 for obsolescence on that?

6 Joking aside, technology has come so far in  
7 making the equipment smaller and more efficient. But there's  
8 not that much space needed to accommodate this. Does that  
9 make the building less functional? You know, that's a  
10 question we need to look at there.

11 You know, you asked a question earlier, how  
12 should they be valued, 15-year life or 50-year life. It  
13 depends on the building. If it's something that's brought in  
14 and is not permanentized to the ground, then maybe we should  
15 look at that differently. But if it's real property, it's  
16 attached to the life, it needs to be treated just like any  
17 other building owned by a company.

18 We would also like to request that the board  
19 provide guidance to the telecommunications company on the  
20 procedures for reporting all real and personal property.  
21 There's a need for clarity on the application costs and/or  
22 the application year. Upon reviewing some of the statements  
23 provided by these companies, the year of application does not  
24 change, but the amount seems to increase or decrease. I  
25 don't know if they're grouping the total cost to fiber optics

1 Washoe County and the department's response. I did bring  
2 copies of that if you wish to review those. And if not,  
3 that's fine too.

4 CHAIRMAN WREN: I need to ask a question. On  
5 your testimony, did you recommend 50 years for the boxes?

6 MS. RUBALD: No. What we did is there was a  
7 request to use for items that were considered to be fixtures  
8 or real property, the question was whether an alternative  
9 cost could be found because it was represented to us that  
10 Marshall & Swift was not complete enough and with regard to  
11 Telecommunications Property, so what we did is we approved an  
12 acquisition cost basis if it was real property then to apply  
13 a 50-year life.

14 CHAIRMAN WREN: Okay. Do you have enough copies  
15 for both sides too?

16 MS. RUBALD: Yes.

17 CHAIRMAN WREN: Any objections?

18 MR. BANCROFT: No.

19 CHAIRMAN WREN: Just hand that out.

20 MS. RUBALD: Okay. Then I would like to talk  
21 about the Personal Property Manual. You'll notice that on  
22 page 33, it's for telecommunications, generally says see  
23 itemized equipment and then it has a list down there at the  
24 bottom. For fiber optic cable alone, it's a 15-year life.  
25 Right above that you'll see something called distribution

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1 together in that year in reducing the amount of the disposed  
2 amount, which would make sense. But how do we account for  
3 increasing the amount of fiber optics that was purchased in  
4 1973 or 1993? I mean, I can see it going down if they had to  
5 dispose of it. But how did it go up in that same year? I  
6 think there needs to be a little bit of consistency in that.

7 The other thing that bothers me is on reviewing  
8 some of the other accounts in the other counties, there was  
9 one agreement that was made and the amount of that agreement  
10 was over a hundred thousand dollars and that was indicated to  
11 be equipment that follows along I-80. Elko County has a lot  
12 of ground with I-80 going clear across that county. And my  
13 stipulated changes came to around \$30,000 with reducing the  
14 15-year life. These were numbers that I came up with in case  
15 the board wanted a number to give on an agreement or  
16 whatever.

17 So that kind of tells me there's some discrepancy  
18 on the reporting. And so I think clarification needs to be  
19 brought there. And that's all I have for you today. Thank  
20 you.

21 CHAIRMAN WREN: That was quite a bit. Thank you.  
22 Okay. Good. I'm glad I heard that first.

23 Terry, your comments.

24 MS. RUBALD: Mr. Chairman, the Elko County  
25 assessor referenced a couple of letters in request from

1 plant if personal property. And that's to imply that a  
2 decision needs to be made as to whether the distribution  
3 plant is real property or personal property. But if it's  
4 personal property, it has a 30-year life.

5 Well, what is distribution plant? I would like  
6 to reference page 56 in the Personal Property Manual. I  
7 happen to be looking at the latest one, the page is unchanged  
8 for 13-13. And what appendix C is, is the list of the  
9 sources used to estimate expected useful life. And one of  
10 the sources that's referenced there is the Department of the  
11 Treasury, Internal Revenue Service, Publication 946, how to  
12 depreciate property.

13 And I brought along -- We've got something else  
14 to pass out, please. I brought along the relevant page on  
15 Telecommunications Property that describes what distribution  
16 plant is. And just as soon as you get it, I'll ask you to  
17 turn from the front page to the second page. And on the  
18 second page you will see at Number 48.14, a description of  
19 what telephone distribution plant is. It includes such  
20 assets as pole lines, cable, aerial wire, underground  
21 conduits and comparable equipment and related land  
22 improvements as defined in the FCC Part 31 account numbers.  
23 So that is a description of what distribution plant is.

24 So how do we reconcile that with -- back to page  
25 33, distribution plant if it's personal property? It appears

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1 to me that conduit is distribution plant. And although this  
2 description in the IRS also includes cable, we have  
3 specifically taken cable out and called it a 15-year life.  
4 But distribution plant like coals and conduit are  
5 distribution plant having a 30-year life. And that is what I  
6 would recommend, that we continue to use the Personal  
7 Property Manual as published.

8 MEMBER MESERVY: Where is the 30 year again? I  
9 didn't see that on the one you just gave us.

10 MS. RUBALD: It's on page 33 and it's just right  
11 above the fiber optic cable. So there's a difference between  
12 the conduit, which is infrastructure, and the cable, which is  
13 in the infrastructure.

14 MEMBER MESERVY: Thank you.

15 CHAIRMAN WREN: Okay. So who approves the  
16 personal property? This is out of the Personal Property  
17 Manual; right?

18 MS. RUBALD: It's out of the Personal Property  
19 Manual. The Personal Property Manual has a workshop every  
20 year and then it's taken a month later to the Nevada Tax  
21 Commission for approval. And these lives have basically  
22 remained unchanged for several years.

23 CHAIRMAN WREN: Okay. And your Publication 964  
24 from the IRS is just substantiating information, if you will?

25 MS. RUBALD: Yes, it is. Because on page 56 of

1 in the Personal Property Manual. We didn't make it up.

2 CHAIRMAN WREN: Oh, but if you would have, it  
3 would have been easier.

4 So what you're saying is Clark County should have  
5 used 30 in your opinion?

6 MS. RUBALD: They should have used 30 for the  
7 distribution plant, which includes poles and conduit, and  
8 they should have used 15 years, and they did use 15 years,  
9 for the fiber optic cable.

10 CHAIRMAN WREN: And that's what you're asking us  
11 to have everybody do?

12 MR. BANCROFT: No.

13 MS. RUSSELL: Yes. It's my understanding that  
14 Level 3 and AT&T have reached stipulations with other  
15 counties. Yeah. That's why I asked for a guidance to be  
16 very specific how it should be done, like when you're talking  
17 30 years for distribution plants, 30 years for the telephone  
18 poles, 15, that it be very specific so that all the counties  
19 are doing it that way. That's my main concern is uniformity  
20 among all the counties so there's no question about how we  
21 did it.

22 CHAIRMAN WREN: Okay. Let me go off the record  
23 for one second.

24 (Pause in the proceedings)

25 CHAIRMAN WREN: I think what I want to do is

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1 the Personal Property Manual, which is Appendix C, we  
2 specifically reference the sources we use for the lives and  
3 so one of the sources is this publication.

4 CHAIRMAN WREN: Perfect. And it's been approved  
5 by the Tax Commission?

6 MS. RUBALD: Yes, sir.

7 CHAIRMAN WREN: So as often happens about this  
8 time or earlier or later, I'm a little bit confused. The 15  
9 years that they're testifying about that they want us to use  
10 is for the -- is for the distribution plant so everything  
11 should be 15 years?

12 MS. RUBALD: Well, it appears to me that they  
13 wanted equalization with Clark County. Clark County  
14 apparently has decided that the distribution -- that the  
15 conduit is not distribution plant. It must be -- I won't  
16 speak for them. I don't know why they made the decision that  
17 they did, but they were using a 15-year life for conduit and  
18 a 15-year life for fiber optic cable. And I would argue that  
19 the conduit should have been 30 years, as well as telephone  
20 poles.

21 MS. BUONCRISTIANI: Terry, is that based on what  
22 you just discussed, that's your conclusion to what you just  
23 discussed? That's what's been approved essentially by the  
24 Tax Commission?

25 MS. RUBALD: Yes. And what the actual basis was

1 since we've heard the testimony, let's back up just a little  
2 bit, okay, and what I need to do is ask you exactly what  
3 you're asking us for, okay, regardless of the stipulation.  
4 The stipulations that we approved, we just approve the  
5 values, not how anybody got there because we don't know.  
6 Okay. And that was kind of the important part of that is  
7 that both sides said, hey, we think this is the fair tax,  
8 we're not going to argue with that. However, it's very  
9 important, which is what the assessor is asking for is to  
10 make sure everybody is on the same page.

11 And Terry, we kind of have to look towards you  
12 too to make sure that all the counties are using what's in  
13 the handbook and classifying it the same way. And I don't  
14 know if we need a -- You and I have had discussions about  
15 personal property, trade fixtures as some of -- the county  
16 and I have. I don't know if we need to have -- do something  
17 to make sure -- what we need to do to make sure everybody is  
18 on the right page of classifying the real property is real  
19 property, personal property is personal property and so on  
20 and so forth.

21 And so having said that, just so I can see where  
22 we are in this case, tell us again quickly what you're asking  
23 us to do.

24 MR. BANCROFT: Well, since I last spoke, a lot  
25 has transpired both from Elko County and from the Department

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1 of Tax. There's more on the table. I started out thinking  
2 this was simple. But it's more complicated. It's not just  
3 Clark County that was treating this in one fashion. It was  
4 Clark, Mineral and Nye and Lincoln were all treating conduit  
5 and fiber optic as 15-year. So it's not just one county and  
6 it's not just a Level 3 issue. Right. It's not just a Level  
7 3 or an AT&T issue. Because there are other  
8 telecommunication companies out there with conduit and fiber  
9 optic cable that have historically been given a 15-year  
10 depreciable life, both in Clark County and in Washoe County.  
11 You know, if you look at Charter Communications  
12 in Washoe County, it's on a 15-year life.  
13 CHAIRMAN WREN: For their fiber optic?  
14 MR. BANCROFT: For their conduit and fiber optic.  
15 CHAIRMAN WREN: And how about the distribution  
16 thing? That's kind of where it seems like we're going awry  
17 with this.  
18 MR. MCKEAN: Ms. Rubald testified that she  
19 believes conduit is distribution plant. And we're simply  
20 saying the policy in this state whether it's written or  
21 unwritten has been to treat that distribution, if you want to  
22 call it that, a 15-year life. The other property owners, Cox  
23 Communications, Charter, CenturyLink, have all received that  
24 treatment. It was AT&T, as you see from the letter, and  
25 Level 3 were specially pulled out and instructed to be given

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1 a 50-year life, a whole different treatment than the personal  
2 real property issue. They were nevertheless billed as  
3 personal property and provided this billboard life, as you  
4 can see, which has nothing to do with the Personal Property  
5 Manual.  
6 We are simply saying that in order to equalize  
7 for this tax year, the only result has to be that AT&T and  
8 Level 3 are not singled out for differential treatment but  
9 are treated the same way that Clark County has treated all of  
10 these companies for many years, as Washoe County has treated  
11 all of these companies for many years, the 15-year life for  
12 conduit as Lincoln County, Nye County, Mineral County have  
13 done so.  
14 If there's a new change in policy, perhaps the  
15 rule making is appropriate and we can address some of these  
16 issues in rule making. But right now, the key players, AT&T  
17 and Level 3 are not the key players in the state. I would  
18 warn that CenturyLink would have something to say about this  
19 if they saw their tax bill for this kind of plant doubled. I  
20 think there would be some other parties here.  
21 We've tried to accomplish this given the playing  
22 field that was out there, given what we knew about the other  
23 counties and given what, for example, Josh Wilson recognized  
24 in Washoe County for other similarly-situated taxpayers. It  
25 put us at a competitive disadvantage with respect to the

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1 other companies with whom we compete and it was clearly not  
2 fair.  
3 Going forward, there is probably a lot of issues  
4 for us to roll up our sleeves and accomplish and I think we  
5 have stated in discussions with the assessors that we are  
6 willing and able to do that. But in this kind of context, I  
7 don't think that's fair to these taxpayers and I don't think  
8 it's fair to the other taxpayers who aren't here who would be  
9 affected by this policy change. If you were to order Clark  
10 County, for example, to go to a 30-year life, that would take  
11 the conduit for CenturyLink and double it. And I warrant  
12 they have a whole lot more conduit in Clark County than we've  
13 got in Washoe County.  
14 And the others, just to put it in context, AT&T  
15 reported to the assessors about 800 million dollars  
16 throughout the different counties. About 18 million of that  
17 was telephone poles and things like that. So most of this is  
18 in fiber optic computer equipment. We're not necessarily  
19 talking about what the big value is on some of these items,  
20 so I just wanted to put that in context as well.  
21 If I have your pleasure, I could also just maybe  
22 address what Ms. Rubald went through a little bit of the  
23 history here. The two letters that were from August, AT&T,  
24 this is from August 2013, these letters. AT&T received tax  
25 bills, like I said, in the April/May time frame under the

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1 personal property bills. And after receiving those bills,  
2 they noticed in Washoe County the tax bill went up by about  
3 three-fold, moving from central assessment to this 50-year  
4 life. AT&T filed direct appeals to the state board of May  
5 15th and that's kind of why this information wasn't provided.  
6 At that time, AT&T had no idea about these  
7 directive letters. These were issued without any kind of  
8 public comment. They were issued and specified to taxpayers  
9 for differential treatment to get a 50-year life. We haven't  
10 even heard that discussion today, 15 versus 30. This told  
11 the assessors to use a 50-year life for all the equipment,  
12 which is why the tax bill went up so dramatically. And the  
13 assessors themselves, the two assessors from the largest  
14 counties said this is not fair, we can't have this and they  
15 stipulated to adjust those values accordingly and  
16 appropriately consistent with what they've been doing for  
17 many years under the Personal Property Manual and under the  
18 supervision of the Department of Tax.  
19 If there's a problem with that supervision and a  
20 problem with how that's been done, that needs to be dealt  
21 with, but it needs to be dealt with not through secret  
22 directive letters that are not copied on the taxpayers, were  
23 not provided to you, were not provided to us, was done  
24 without any rule making, without any notice under 233-B,  
25 under the rule-making procedures. Any kind of change in



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1 policy like this should be noticed so that other taxpayers  
2 who can be affected have a voice.

3 CHAIRMAN WREN: What I'm getting from this is  
4 that when everything was centrally assessed there wasn't any  
5 arguments or appeals.

6 MR. MCKEAN: There were appeals, but the appeals  
7 were generally based on the income approach because it was a  
8 unitary income approach and whether or not RCNLD --  
9 (The court reporter interrupts)

10 MR. MCKEAN: At essential assessment, the issues  
11 were very different. It was not a county by county. It was  
12 a unitary value as to the standards.

13 (The court reporter interrupts)

14 MR. MCKEAN: RCNLD, replacement cost new less  
15 depreciation is a central assessment term that is similar to  
16 some of the concepts.

17 CHAIRMAN WREN: So Terry, why don't we go from  
18 the centrally assessed to the counties.

19 MS. RUBALD: Mr. Chairman, in 1999 a law was  
20 passed that basically said the telecommunications are  
21 properties that carry video services were no longer to be  
22 centrally assessed. They were to be locally assessed. And  
23 that was primarily at the time aimed at cable television type  
24 providers. But since that time there's been a convergence of  
25 the industries between telecommunications and cable TV and

1 recognized cost manuals, cost determinations or subscription  
2 services. If the executive director finds that the manuals  
3 described in Subsection 2 do not apply to such improvements  
4 and that the alternative recognized cost manuals, cost  
5 determinations or subscription services are suitable, the  
6 executive director shall within 30 days after receiving an  
7 application pursuant to this subsection approve the use of  
8 the alternative recognized cost manuals, cost determinations  
9 or subscription services and notify each assessor of that  
10 approval."

11 So we received a letter from Washoe County asking  
12 us, telling us that they felt that Marshall & Swift was  
13 inadequate for the valuation of properties, certain fixtures  
14 that they found were real property. And so what we did is we  
15 granted them permission to use actual acquisition cost and if  
16 it was real property to use the 50-year table that was in the  
17 Personal Property Manual for billboards so that they would  
18 have the same treatment as other real property.

19 CHAIRMAN WREN: Okay.

20 MS. RUBALD: And there was no specific direction  
21 on which property. It was just property that the assessor  
22 deemed to be real property.

23 CHAIRMAN WREN: Okay. So it appears to me that  
24 what we're dealing with here are fiber optics plants or  
25 communications, if you will. And from what I'm getting out

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1 those that we can identify of telecoms that carry video and  
2 we released back to local assessment that happen to be Level  
3 3 and AT&T Nevada and AT&T generally.

4 One of the items in your record we brought  
5 forward last year, I believe, Level 3, because we had already  
6 centrally assessed it when we finally got a memorandum from  
7 the attorney general's office stating that we needed to  
8 release these properties and so we brought it -- since it had  
9 already been placed on the central assessment roll, we  
10 brought it to your attention and this body issued a decision  
11 taking it off the central assessment roll, that's Level 3,  
12 and putting it on the local assessment roll. We had already  
13 taken AT&T Nevada and AT&T off the central assessment roll,  
14 so we didn't need to come to you to do that. So that's why  
15 that occurred.

16 If I may, I would like to rebut the allegations  
17 that Mr. McKean has seen fit to make about secret letters,  
18 may I?

19 CHAIRMAN WREN: Sure.

20 MS. RUBALD: Okay. If I could refer you to NAC  
21 361.128, it basically says -- it requires us to use Marshall  
22 & Swift. And then it says, "If the manuals described in  
23 Subsection 2 do not apply to improvements of a particular  
24 occupancy or construction type, the county assessor may apply  
25 to the executive director for permission to use alternative

1 of this is the fiber optic cable itself has a 15-year life  
2 and the distribution plant, which is everything else, should  
3 have a 30-year? Is that pretty much fair to say? Those are  
4 the two components we're talking about, the cable and  
5 everything else?

6 MS. RUBALD: The distribution plant is as I  
7 described it in the IRS publication.

8 CHAIRMAN WREN: Which is everything else.

9 MS. RUBALD: No. Because there is a lot of  
10 central office equipment, computer equipment, those things.  
11 And that's covered in all of these other itemized categories.

12 CHAIRMAN WREN: Right. Okay.

13 MEMBER MESERVY: It seems to me it would be a lot  
14 easier if they incorporated this definition in the next round  
15 in NAICS. It would be helpful to maybe list it to describe  
16 what's a distribution plant by listing these items. It might  
17 help some.

18 CHAIRMAN WREN: So I have a question for you and  
19 a question for, I guess, for the board also. It's one of  
20 those things where two wrongs don't make a right. Just  
21 because Clark County and Washoe County were doing something,  
22 what appears to be in opposition to what the handbook says  
23 they're supposed to be doing, I don't think we should say,  
24 well, okay, yeah, if you're both doing it wrong it makes it  
25 right. I think everybody should be doing it in accordance

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1 with the handbook.  
2 MS. BUONCRISTIANI: We've had testimony or you've  
3 had testimony today as to what's occurring and as to what the  
4 counties are doing. What you've done in the past is hold a  
5 hearing and take the evidence to find out exactly what they  
6 are doing. And so you could make a finding today that it  
7 appears the counties may not be doing the same thing and hold  
8 a hearing at another time and ask them to come in like you  
9 did before when it came to other methods to get them to  
10 testify and provide evidence about what they're doing.  
11 And in terms of the -- There was one other  
12 thing -- the appeal today, I don't know that you would have  
13 to make a finding that this is the proper way to value these  
14 things. You already had to decide that, that this is  
15 whatever way it is you decide is the proper way to do it.  
16 That's how you interpret the personal property. Because you  
17 don't -- you cannot approve methods and you can't set those  
18 lives, you know, years, but you do have to interpret it in  
19 order to value property.  
20 And so I guess first you would have to determine  
21 what you believe based on the testimony and the evidence  
22 today is the proper way to value these properties. And then  
23 in terms of the allegation that it's being done different in  
24 every county is hold a hearing to find out what's being done  
25 in every county. Because as you stated in regard to the

1 that 15-year treatment for the year at issue here. You know,  
2 like CenturyLink, Charter Communications. We should be  
3 getting the same tax treatment as they received. And any  
4 confusion --  
5 MS. BUONCRISTIANI: I addressed that with my  
6 first point and that is to discuss this with all of the  
7 taxpayers. What I'm talking about is if there needs to be  
8 regulations. Katrinka had asked for direction on what to do.  
9 MR. BANCROFT: Oh, I agree that this whole issue  
10 could -- is worth clarifying on a go-forward basis. But I  
11 don't see any reason to hold up the determination in the case  
12 today for this tax year because we're just asking it be  
13 treated as other similar taxpayers this year. On a  
14 go-forward basis, yes, open up the regulatory process, have  
15 workshops, come up with new rules and apply them to  
16 everybody. Don't just single out two taxpayers to do it.  
17 Just to get back to your question, you asked  
18 specifically what categories are at issue in this case. And  
19 just based on the discussion, it does not sound like fiber  
20 optic cable on a 15-year life -- It sounds like people are in  
21 agreement on that. The idea that computer-based optical  
22 transmission is a five-year life, it doesn't sound like  
23 people are in disagreement on that one.  
24 The only two -- The one is conduit. Some  
25 counties have apparently treated conduit as a 15-year

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1 stipulations, just because the stipulation says that's what  
2 they're doing, you would agree that's not something that --  
3 you didn't approve anything about the methods there, you  
4 approved the value and you would actually have to find  
5 something directly from the assessor instead of taking  
6 evidence as to that to make that determination.  
7 And then if you find that's what's happening then  
8 you would have to go on from there and you could find out  
9 from the assessors if it would be helpful, as Katrinka has  
10 said, to get, you know, to have regulations and have some  
11 testimony to develop regulations.  
12 And what you've done in the past, and I believe  
13 Mr. McKean was involved in it with the golf courses, is that  
14 you continued the cases pending finding a need in our  
15 regulations to be doing the same thing is to continue the  
16 cases until that happens. And I can't remember what happened  
17 to the golf course cases.  
18 MR. BANCROFT: The golf course cases are a  
19 different situation because in that case you had all the golf  
20 courses kind of appealing and creating that open issue. In  
21 this case you've got telecommunication companies that have  
22 already been assessed on this basis. The idea that the  
23 conduit was not a distribution plant, it was treated as a  
24 15-year property in Clark, Nye, Mineral and Washoe Counties.  
25 So you have companies out there who have already received

1 property. That's already water under the bridge. And Terry  
2 has suggested that perhaps it should be treated as a  
3 distribution plant and identified a 30-year property. So  
4 that's one. I started out saying there's four. Two aren't  
5 at issue: Fiber optic cable and computer-based optical.  
6 Conduit is the discretion of should it get the same treatment  
7 as others or should it be treated as distribution.  
8 And the fourth is the idea that telecommunication  
9 equipment shelter, is it real property, depreciable over a  
10 50-year life or should it be treated as personal property.  
11 CHAIRMAN WREN: Okay. And I guess that kind of  
12 makes sense now. Your testimony what the other counties are  
13 doing is your testimony. We don't have them here telling us  
14 that. So it's been whispered in my ear that it's hearsay,  
15 which I would kind of have to agree with.  
16 What I want to do is ask Katrinka how are you  
17 handling your life in this case?  
18 MS. RUSSELL: Okay. We did put the fiber optic  
19 at a 50-year --  
20 CHAIRMAN WREN: 50.  
21 MS. RUSSELL: -- for the telecommunication  
22 shelter based on that. But once we realized that it was  
23 fiber optic, we did go ahead and I put it in the summary, we  
24 did talk about doing it at a 15-year life because we're  
25 treating it like fiber optic conduit out of the ground.

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1 CHAIRMAN WREN: Okay.  
2 MS. RUSSELL: But what I'm asking for in guidance  
3 is the distribution plant let's be very specific. Fiber  
4 optic, we're going to treat it just like it says in the  
5 Personal Property Manual, distribution plant, the poles and  
6 all of that are going to be in here as a 30.  
7 Telecommunication shelter, should we apply obsolescence to  
8 that -- to the building? And if so, how should we do that so  
9 that all the counties do it the same way? I just want it to  
10 be very specific, the ruling, so that when we walk away from  
11 here we all do it exactly the same.  
12 CHAIRMAN WREN: So the building is -- the  
13 building isn't called that in your handbook there, the  
14 building would be part of the distribution plant; correct?  
15 Is that your opinion?  
16 MS. RUSSELL: I believe it depends on if it is  
17 the outdoor distribution plant. Elko County has some  
18 property where it's just a building. And it's not a  
19 distribution plant. It's just a building. So I think --  
20 CHAIRMAN WREN: Concrete bunkers.  
21 MS. RUSSELL: So I think you have to make a  
22 judgment call.  
23 CHAIRMAN WREN: So it also comes in to question  
24 then, is that personal property real property; correct? This  
25 is going to surprise you, but I don't think we're going to be

1 CHAIRMAN WREN: Okay. Let's do this. Give the  
2 court reporter a chance to let her fingers cool off. Let's  
3 take a short break and everybody think about it.  
4 (Recess was taken)  
5 CHAIRMAN WREN: I think maybe what I'd like to do  
6 real quickly is get down and try to figure out -- We've had  
7 testimony, hearsay, about what other counties are doing. I  
8 have some assessors or assessors' representatives in the room  
9 other than Elko County. And what I would like to do is have  
10 the assessors or your representative from the other counties  
11 come up and tell us how you are handling these issues in your  
12 county so we can see kind of what page everybody is on.  
13 Storey, come forward.  
14 MS. SEDDON: You're going to pick on me.  
15 CHAIRMAN WREN: Well, anybody that runs around  
16 with "VC" on their shirt.  
17 MS. SEDDON: I've got a volleyball game at 5:00  
18 o'clock.  
19 CHAIRMAN WREN: Well, okay. You understand my  
20 question. I assume you've been listening to the testimony?  
21 MS. SEDDON: Yes, I do. Jana Seddon, Storey  
22 County assessor. This is the first year that we've had to  
23 have any telecommunication companies, so we have tried, like  
24 Katrinka has said, we tried to equalize among all the  
25 counties and so we've all tried to do the same thing.

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1 able to answer that today. I have my opinion, but --  
2 MEMBER HARPER: Can I ask a question? And I  
3 don't know if this is going down the right road or not. But  
4 is this the first and only company or situation in Elko  
5 County? You have no other like CenturyLink or --  
6 MS. RUSSELL: You know what --  
7 MEMBER HARPER: Charter?  
8 MS. RUSSELL: -- We have other telecommunication  
9 companies. We've been assessing them at a local level. You  
10 know, they were just, you know, the communication shelters,  
11 cell phone towers and the little building at the base of  
12 those towers, that's pretty much it. But nothing on the  
13 level of Level 3 or AT&T Communications.  
14 MS. RUBALD: Mr. Chairman, I guess I should  
15 mention, if we're talking about this, the department still  
16 values about 20 telecommunication properties. And I told you  
17 before it was on a unitary basis where we take basically the  
18 historic cost less their book depreciation. And what that  
19 means is we're -- we review where we can, audited financials  
20 and SEC-10-K and what not. And in your own record, there's  
21 the level 310-K which says that the fiber optic  
22 infrastructure including conduit is valued at -- is  
23 depreciated with a 25 to a 50-year life. So the  
24 centrally-assessed telecommunications using book cost  
25 depreciation is using a 25 to 50-year life.

1 Originally we put everything on at a 50-year  
2 life. Then after all the other we kind of, Storey County  
3 kind of hung back because we're the little guy. And what we  
4 came up with a potential stipulation but based on what the  
5 state board's recommendation for everybody one else we have,  
6 we actually have a -- we actually have a provision in our  
7 stipulation that will be null and void depending on what the  
8 board decides.  
9 However, what we did stipulate was 30 years on  
10 the poles, 15 years on the conduit and fiber optics.  
11 CHAIRMAN WREN: Okay. Which follows the  
12 handbook?  
13 MS. SEDDON: Well, from what we're hearing, the  
14 conduit which we would rather have at the 30 year, like I  
15 said, we were trying to stay in line and be equalized  
16 throughout some of the other counties like Washoe and Clark,  
17 we did put the conduit on 15 and the fiber optics. But we  
18 agree with the 15 on the fiber optics, but we also had the  
19 poles on at 30.  
20 CHAIRMAN WREN: Okay. But that's what the  
21 handbook says.  
22 MS. SEDDON: In the poles but not the conduit.  
23 CHAIRMAN WREN: Okay. So according to the  
24 handbook, the conduits should be 30.  
25 MS. SEDDON: Yes, from the clarification that

<p style="text-align: right;">Page 217</p> <p>1 Ms. Rubald gave us today. 2 CHAIRMAN WREN: Okay. So that was your only 3 disagreement. Okay. You're off the hook. 4 Laura. 5 MS. RUBALD: If I may just add one thing, 6 Mr. Chairman. That Personal Property Manual says 7 distribution plant if personal property. So that is, I'm 8 assuming that the decision was made by Jana that it was 9 personal property. 10 CHAIRMAN WREN: Okay. Ms. Duvall. And to be 11 fair to Laura and the assessors that come up here today, if 12 you don't know, that's okay too. 13 MS. DUVALL: Laura Duvall, Lander County 14 assessor. I would like to state on the record that I have 15 objections to even testifying because the appeals in my 16 county were not filed in accordance with Nevada law. They 17 were not appealed at the county level nor the time frame that 18 they were supposed to be appealed to the state level. They 19 were appealed actually last month. 20 CHAIRMAN WREN: Okay. We're not hearing your 21 case right now so hold off on that. I understand where 22 you're going. But I just -- 23 MS. DUVALL: Okay. In Lander County as far as 24 the fiber optics we too have no argument that they should be 25 a 15-year life. We did also put them out at 15 years. And</p>	<p style="text-align: right;">Page 219</p> <p>1 no disturbance of the ground by removing it, I would argue 2 that point. 3 So I think there has not been a lot of discussion 4 about the guidance letter because it says, you know, for 5 items that are deemed to be or considered by the assessor to 6 be real property, there should be a 50-year life just like 7 every other property, houses, garages, sheds, patios, decks, 8 concrete. I mean, we can sit here and argue all day is my 9 old tin shed classified as real property with a 50-year life, 10 is it going to last that long. They've got buildings that 11 have been there for more than 50 years and they're saying 12 they should be a 15-year life. Well, how can they still be 13 standing? Why are they still using them? Why are they a 14 viable part of, you know, their equipment? If they're only 15 15 years, why are they still there? They should have fallen 16 down; right? 17 That would be my concern and my issue is the 18 argument with what's real property and what's personal 19 property. But as far as the rest of it goes, I feel we 20 should adhere to the Personal Property Manual and two wrongs 21 don't make a right. And I agree the stipulated grievance 22 that granted in to there was no discussion about the 23 methodology so we don't know what was done or what wasn't 24 done in other counties. And I certainly wouldn't kick them 25 to the curb without knowing that.</p>
<p style="text-align: right;">Page 218</p> <p>1 based on the directive letter from the Department of 2 Taxation. 3 However, I do feel that the distribution plants 4 if personal property, and I state if because I have real 5 concerns about what is personal property and what is real 6 property, buildings, and structures if they are deemed to be 7 real property they have a 50-year life schedule just like all 8 other real property for all other taxpayers, not just 9 Telecommunications. And the conduit should be based on the 10 Personal Property Manual should be a 30-year life. I'm not 11 in disagreement with any of that. 12 I am in agreement with following the Personal 13 Property Manual because it was adopted by the state Tax 14 Commission and it's been the manual that we use for decades 15 for these type of items. I realize some things are not 16 really specific, however, I think it's pretty clear there's 17 not a discrepancy on what is considered distribution 18 equipment and what is the fiber optics computer items at a 19 five-year life, specifically I have no problem. 20 But I do have concerns about things that 21 telecommunication companies would like to call personal 22 property. If you do the test, do you disturb the area around 23 it, do you destroy other things by removing it. And if you 24 do, it's real property. So if you are going to say the 25 conduit in the ground is personal property and there would be</p>	<p style="text-align: right;">Page 220</p> <p>1 CHAIRMAN WREN: We haven't heard the evidence 2 so -- Okay. Thank you. Just when you thought I didn't think 3 you were back there. 4 MS. LEE: For the record, Ruth Lee, Esmeralda 5 County assessor. Chairman Wren, I don't know if you want me 6 to go in to I did it and then I amended it the way the 7 guidance letter went and then I amended it again. And I am 8 using the 15-year for the conduit and the fiber both because 9 I don't have a lot of the issues that everybody else has. I 10 don't have buildings. I've got basically junk cable on the 11 side of one of my areas near California and that's it. And 12 then I did five-year on the switches. 13 CHAIRMAN WREN: You don't have any poles or 14 cables or anything? 15 MS. LEE: No, sir, I have nothing like that. 16 CHAIRMAN WREN: I've been to your county. I 17 believe that. 18 MS. LEE: Yes. 19 CHAIRMAN WREN: Okay. But what is your 20 interpretation of the handbook? 21 MS. LEE: Well, I would have gone with the 22 telecommunications and because the cable and the fiber are 23 hooked together, they can be yanked out at any point in time. 24 It's on the edge of the county. It's really old there, you 25 know.</p>

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1 CHAIRMAN WREN: Okay. That's fair. Good. Thank  
2 you.  
3 MS. LEE: Uh-huh.  
4 CHAIRMAN WREN: One or both. You're up first.  
5 MR. MEARS: For the record Michael Mears,  
6 M-e-a-r-s, Eureka County. We originally put ours on with a  
7 50-year life on the fiber and conduit. When we had  
8 discussions with the taxpayer after they had received their  
9 bills and realized that those bills had essentially almost  
10 tripled, we went back and looked at it. I discussed it with  
11 my colleague in Washoe County, Josh. And discovering that  
12 they were going to put everything on a 15, we determined we  
13 would do the same. So as you know because it's in your  
14 packet, we did stipulate with AT&T.  
15 And at this point having heard from Terry today,  
16 I think there's definitely some argument to be made and some  
17 discussion to be had as to whether conduit should be  
18 considered real property or not and what life schedule we  
19 should be putting on that. As a network person for Eureka  
20 County, we have a lot of pipe in the ground and we move cable  
21 in and out of it all the time. We don't move the pipe. The  
22 pipe stays in the ground.  
23 So I think, again, moving forward this is  
24 definitely something that we would like to all have  
25 clarification. The bottom line for all 17 of us is just that

1 MS. GREEN: When you look in the personal  
2 property manual, we have I think it's in the beginning of  
3 that, right at the beginning of it, we're given instructions  
4 to look at that to give it a three-part test and is it  
5 permanently affixed in to the ground. I believe the conduit  
6 is. I don't think they're typically going to remove that. I  
7 think they are going take the fiber in and out but not the  
8 conduit.  
9 CHAIRMAN WREN: I agree. Okay. Anything else?  
10 MS. GREEN: No.  
11 CHAIRMAN WREN: Okay. Thank you. Who did I  
12 miss?  
13 MS. MCBRIDE: Melanie McBride from Lincoln  
14 County. I'm in Las Vegas.  
15 CHAIRMAN WREN: Sorry. I had people walking up  
16 and I said that's not you. Okay. Go ahead.  
17 MS. MCBRIDE: For the fiber optic and the  
18 conduit, we have been using 15-year life. I have questions  
19 on the shelters still because the description they gave me  
20 was it's a pre-cast modular concrete shell that is strapped  
21 to the side and dropped on a concrete pad. The concrete pad  
22 is real property but the shell isn't, so that's one of my  
23 questions. I don't know if that's how Level 3 declared  
24 theirs to everyone else. But I used a 50-year life schedule  
25 for that. But now I'm questioning whether it should be

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1 we're doing it the same so we're not sitting in front of this  
2 board every year arguing over how we did the buildings, how  
3 we did the conduit. That's where Katrinka is spot on. We  
4 just want to know what you want us to do, what does the Tax  
5 Commission want us to do. We just want to make sure we're  
6 doing it correctly and the same as our neighbors.  
7 CHAIRMAN WREN: Good. We're trying to figure out  
8 how to help you get there. Thank you.  
9 MS. GREEN: Norma Green, Churchill County  
10 assessor, for the record. What we currently billed, and we  
11 haven't stipulated to anything yet, we were waiting for some  
12 further guidance, we did fiber optic at 50, we did the  
13 conduit at 50, the shelters at 50, the computer equipment at  
14 five and the telecommunication equipment at ten.  
15 Fiber optic I have no problem being 15. The  
16 conduit based on the three-part test in the Personal Property  
17 Manual and using the alternative cost, I felt it should be  
18 50.  
19 CHAIRMAN WREN: Classifying as real property, not  
20 personal property.  
21 MS. GREEN: Real, not personal property.  
22 CHAIRMAN WREN: So far you're the only one who  
23 said that all the way across the line. What is your  
24 interpretation of how you determine whether or not it's real  
25 property or personal property?

1 personal property because only the concrete pad should be  
2 real property.  
3 And I'm here for guidance and I want to give  
4 kudos to Katrinka for asking most of the questions that all  
5 of us had.  
6 CHAIRMAN WREN: I was kind of proud of her too.  
7 Leave it to Elko County, right. Okay. Thank you very much.  
8 Jeff.  
9 MR. JOHNSON: For the record, Jeff Johnson,  
10 Humboldt County assessor. We costed everything at the  
11 50-year life, the conduit, the fiber, all of that stuff. We  
12 did it according to the guidance letter. We actually -- T  
13 association had all talked about what we were going to do and  
14 it was my understanding we all agreed it was going to be a  
15 50-year life, so we put it on that way and left it that way.  
16 CHAIRMAN WREN: Okay. Perfect. You're wrong.  
17 MR. JOHNSON: Apparently. It's not the first  
18 time.  
19 MS. UNDERWOOD: Debbie Underwood from White Pine  
20 County assessor. We did the poles, the conduit, the fiber  
21 optic all at a 50-year life for the same reason why Jeff  
22 said, that we felt that the guidance was there. And I felt  
23 that it was supported by the dates that was given of how long  
24 that equipment had been in place. We have some clear back to  
25 1950s, the '70s, so we felt that that was reasonable to use a

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1 50-year life.  
2 CHAIRMAN WREN: Okay. Thank you. I won't tell  
3 you you're wrong. I just tell Jeff that.  
4 MS. HAMILTON: I'm Celeste Hamilton. I'm the  
5 Pershing County assessor. And that's C-e-l-e-s-t-e Hamilton.  
6 And this makes three of us that have all done it the same  
7 way: Jeff, me and Debbie. It's the 50-year life for  
8 everything.  
9 CHAIRMAN WREN: Okay. All right. Good. Thank  
10 you very much. I appreciate that and I appreciate your  
11 answers too. Did I get everybody? Does Washoe County want  
12 to chime in since you're here?  
13 MS. WILKINS: Good afternoon. For the record  
14 Teresa Wilkins, Washoe County chief deputy assessor. Washoe  
15 County initially did value the properties in question using  
16 the 50-year life. Based on the additional information, we  
17 revalued it and our stipulated values do reflect that recost  
18 in to the 15 years.  
19 CHAIRMAN WREN: Okay. Thank you. And who's in  
20 Clark County? Who's in Las Vegas? Everybody here left.  
21 MS. GOODMAN: Lori Goodman with the Clark County  
22 Assessor's Office.  
23 CHAIRMAN WREN: Hi. Do you want to address this  
24 for us?  
25 MS. GOODMAN: They moved the camera. Our --

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1 Basically the value that we stipulated to was the  
2 reclassification on the taxpayer's report from the central  
3 office equipment to the computer-based switching equipment.  
4 We had originally valued the fiber and conduit in a 15-year  
5 life. I toured all of the facilities that they have here.  
6 Most of them are the stiff-type buildings that are on the  
7 concrete pads, so the four shelters that we don't have on  
8 real property records here I did take it the 15-year life.  
9 CHAIRMAN WREN: Okay. And your underground  
10 conduit is 15 years also?  
11 MS. GOODMAN: Correct.  
12 CHAIRMAN WREN: 15, okay. All right. Thank you.  
13 MS. GOODMAN: 15, yes.  
14 CHAIRMAN WREN: 15, okay.  
15 MS. GOODMAN: Thank you.  
16 CHAIRMAN WREN: All right. Well, what this tells  
17 us is that everybody is not doing it the same way and the  
18 fact that there are stipulated values is fine. That's  
19 already come before us. So it gets back -- What you're  
20 asking us to do -- Let's get back to this case now and see  
21 how we can deal with this. What you guys are asking is for  
22 the 15 years and what you're saying is you follow the  
23 handbook; is that correct?  
24 MS. RUSSELL: We did up to a point. Not on  
25 everything. You know, we did the 50-year life. But on the

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1 computer-based, we did follow the personal property handbook  
2 and on the computer switchback equipment and we went back and  
3 changed -- Well, we did some calculations based on a 15-year  
4 life with the fiber optic. But I feel like conduit 50. And  
5 I wasn't sure if fiber optic conduit was the same. I found  
6 out today it's not. So guidance on real property.  
7 CHAIRMAN WREN: Okay. Go ahead.  
8 MR. BANCROFT: Just to clarify, you know, because  
9 for Elko County on their line items on their equipment  
10 schedule, there's the conduit. And on the version that she  
11 submitted as her Exhibit A she now has the conduit on a  
12 15-year life. She has the fiber optic cable on a 15-year  
13 life. She has the central office equipment that has been  
14 recategorized as computer-based on a five-year life. And we  
15 are comfortable with all three of those that are on her  
16 Exhibit A.  
17 The only question was the telecommunications  
18 equipment shelter. And if this, if Exhibit A are the values  
19 that she's suggesting, we're comfortable with the way she's  
20 treating conduit because she's moved it from a 50-year life  
21 to a 15. She's moved fiber optic from 50 to 15. She's moved  
22 the computer-based optical transmission equipment from a 15  
23 to a five. We're comfortable with those changes if this  
24 Exhibit A is what she's proposing.  
25 The only remaining question is how do you treat

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1 those SCIF-type equipment shelters, and she's applied a  
2 50-year life to those. And I think the testimony was out of  
3 Clark County that it was applied at a 15-year life, those  
4 SCIF-type ones.  
5 CHAIRMAN WREN: And there was three counties with  
6 50 on them. And the difference is whether or not they're  
7 personal property --  
8 MR. BANCROFT: And one that --  
9 (The court reporter interrupts)  
10 MR. BANCROFT: And one that put a 30-year life on  
11 it.  
12 CHAIRMAN WREN: Right.  
13 MEMBER MESERVY: I don't think she was agreeing  
14 with the underground utility should be at 15 anymore. It was  
15 30 based on what our conversation was. Is that correct?  
16 MS. RUSSELL: I will be modifying my record to  
17 reflect what we pretty much determined today, conduit, real  
18 property, telephone poles, distribution plants. So the  
19 summary it was just to give you an idea of what things would  
20 be at a 15-year life. But now we found out the conduit  
21 should be 30. So these numbers are inaccurate.  
22 CHAIRMAN WREN: Okay. So this is kind of  
23 complicated and we're kind of running up the clock here. We  
24 don't have to make a decision tonight. We can make a  
25 decision in the morning. You guys can think about it or I



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1 can close the case and we can discuss it and make a decision.  
2 MEMBER MESERVY: I think the decision is easy,  
3 but I'm not sure, you know, if everyone is going to agree  
4 with it.  
5 CHAIRMAN WREN: We don't care. So having said  
6 that -- Has everybody had their due say?  
7 MR. MCKEAN: I would just point to one other --  
8 No more -- No further comments. Thank you.  
9 CHAIRMAN WREN: Okay. Thank you.  
10 Okay. Mr. Bancroft, if you will tell us exactly  
11 what relief you are seeking on this property to make sure  
12 we're all still on the same page.  
13 MR. BANCROFT: There's four categories of  
14 equipment that were reported in Elko County. They appear on,  
15 at SB-4.  
16 CHAIRMAN WREN: On the new evidence?  
17 MR. BANCROFT: Yes. The first on SB-4, those  
18 line items that are referred to as central office equipment,  
19 after reviewing and identifying, that equipment was  
20 reclassified as computer-based optical transmission equipment  
21 and moved from a 15-year life to a five-year life. That's  
22 how it's treated in Washoe County. That's how it's treated  
23 in Clark County. And I understand from today's hearing that  
24 Elko County is comfortable with that treatment for the  
25 computer-based optical transmission equipment.

1 I'll close the case. Comments.  
2 MS. RUSSELL: If I may.  
3 CHAIRMAN WREN: Comments, yes.  
4 MS. RUSSELL: Mr. Bancroft made reference to on  
5 the summary the things that were highlighted in yellow and he  
6 said he's okay with that. Well, I'm glad he's okay with  
7 that. The reason I made those changes going from a 15 to a  
8 five is because he refiled an affidavit on September 30th  
9 stating that equipment had been mislabeled and labeling it  
10 correctly as computer equipment it required that I change it  
11 to a five-year life. I just wanted to make sure that was  
12 clear.  
13 CHAIRMAN WREN: Okay. Good. Thank you. Okay.  
14 MEMBER HARPER: My comments are there's  
15 telecommunications companies and be it that it sounds to me  
16 like the majority of them are in Clark County, be it  
17 CenturyLink. I guess there's Charter up here in Washoe.  
18 That have been locally assessed and in my opinion that kind  
19 of sets an equalization that I think for this tax year that  
20 we're talking about and these specific properties that the  
21 other counties need to equalize at because I don't see how  
22 just because Level 3 and AT&T all of a sudden in this one  
23 year moved from being centralized -- centralized attack,  
24 whatever -- Thank you -- to local that this, these two  
25 companies or related companies are treated different than the

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1 On page SBE-6, there's line items for two items,  
2 conduit systems and fiber optic cable. Both conduit systems  
3 and fiber optic cable were initially billed by Elko County  
4 using a 50-year depreciable life. The schedule she's  
5 provided here are depreciating on a 15-year depreciable life.  
6 We're comfortable with that. We would ask that a 15-year  
7 life be applied to both the conduit and fiber optic cable.  
8 That's the way it's treated in Washoe County. That's the way  
9 it's treated in Clark County.  
10 However, during testimony today it's been  
11 identified that the conduit systems could be classified as  
12 distribution equipment and a 30-year life may be in place.  
13 We would argue for the 15-year life for uniformity purposes.  
14 That's how it's been treated. That's how CenturyLink was  
15 assessed already.  
16 The fourth item -- So those are the first three  
17 categories. The fourth category appears on SBE-10 and these  
18 are the three telecommunication equipment shelters, the  
19 SCIF-type shelters that are just dropped on the pads and that  
20 Elko is currently treating them as real property, 50-year  
21 property, and we would ask that it be treated as personal --  
22 the shelter itself be treated as personal property and  
23 depreciated under a 15-year schedule as it is being done in  
24 Clark County.  
25 CHAIRMAN WREN: Okay. All right. Thank you.

1 existing ones that have been locally assessed for a number of  
2 years.  
3 And yes, I agree, moving forward maybe the whole  
4 thing needs to be reopened but for all the telecommunications  
5 companies, including Charter, CenturyLink and all the ones  
6 that have been being assessed locally for a number of years.  
7 CHAIRMAN WREN: Okay. Dennis.  
8 MEMBER MESERVY: You know, my concern is that,  
9 you know, I was given this job to follow the law and I can't  
10 go around making up, you know, just because somebody did it  
11 wrong that we all of a sudden let it go and let everyone else  
12 do it wrong and the next time. You know, I really think this  
13 is one that they need to have a pow-wow of some sort and get  
14 with all of these counties and figure out how we can apply  
15 this property and make sure that everyone understands the  
16 rules.  
17 But I think it's there and I don't have any  
18 problem with the changes on this one, other than the 15-year  
19 on underground conduits. But rather -- I feel like that  
20 should be 30 based on what it's saying in the manual. But I  
21 personally don't agree with just because we've let it slide  
22 on others. There's a lot of evaluations that get slid every  
23 year, but I don't think we should be the board that lets it  
24 be known that we're just going to go along with what  
25 happened. I think we need to go with what should be, so

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1 that's just my bits.  
2 CHAIRMAN WREN: Aileen?  
3 MEMBER MARTIN: I agree with Dennis.  
4 CHAIRMAN WREN: Okay. Ben?  
5 MEMBER JOHNSON: I largely agree with Aileen and  
6 Dennis here. I don't think a negotiated settlement between  
7 other parties is meaningful for us to make our decision based  
8 on. I think we have to do what's right based on the facts in  
9 front of us and we have the real property manual, Personal  
10 Property Manual. We've taken a lot of testimony. I think  
11 what we have here in front of us is enough to make a  
12 decision.  
13 CHAIRMAN WREN: Okay. Make a motion.  
14 MEMBER MESERVY: If I understood it well, I think  
15 the only place that we're in disagreement with what they're  
16 asking is the 15 years to move it back to 30 on the  
17 underground conduits. I think that's the only difference.  
18 MEMBER JOHNSON: And the shelters.  
19 MEMBER MESERVY: Okay. The shelters was the  
20 other part. That one I'm not sure how to address because  
21 that could be --  
22 CHAIRMAN WREN: Before you make a comment or  
23 motion, let me address that from my perspective. And I'll  
24 tell you, first of all, that I agree with you raising your  
25 thought that the conduit per the book is 30 years. That's

1 MEMBER HARPER: And the computer at five.  
2 MEMBER MARTIN: And central office equipment will  
3 stay at five years?  
4 MEMBER JOHNSON: Yes. Correct.  
5 CHAIRMAN WREN: Okay. Second?  
6 MEMBER MARTIN: Second.  
7 CHAIRMAN WREN: Further discussion. All in favor  
8 say aye.  
9 MEMBER MESERVY: Aye.  
10 MEMBER MARTIN: Aye.  
11 MEMBER JOHNSON: Aye.  
12 CHAIRMAN WREN: Opposed?  
13 MEMBER HARPER: Nay.  
14 CHAIRMAN WREN: Motion carries. Okay. Thank you  
15 very much. So I guess before we call the next case or  
16 whatever we're going to do is I need to look at Terry and say  
17 Terry, it's apparent that we need to do something to make  
18 sure that everybody is on the same page in the future on  
19 these and I don't know how you do that. Do you do it with a  
20 workshop or do we call everybody in, do we send them all to  
21 Utah? What do we do?  
22 MS. RUBALD: By law we are required to have a  
23 workshop on the Personal Property Manual every year. We'll  
24 make this a talk item at that workshop before the next  
25 personal property manual is issued.

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1 where it should be, regardless if anything else has happened  
2 out there. It's our job to follow the handbook also. So I  
3 agree with the 30 years.  
4 As far as the buildings, the SCIF buildings or  
5 whatever you want to call them, they're concrete buildings  
6 that are concrete foundations with a crane. The definition  
7 of real property is something that is rather permanently  
8 affixed. If you have to take a crane to put something on  
9 something, that's rather permanently affixed. So I agree  
10 with the three counties that have assessed those at 50, I  
11 agree with them. I consider it real property.  
12 MEMBER MESERVY: And I have no problem with that.  
13 I agree.  
14 CHAIRMAN WREN: Okay.  
15 MEMBER MESERVY: But I'm not sure how to make a  
16 motion but maybe somebody can help me with that.  
17 MEMBER JOHNSON: I will make the motion then in  
18 Case 14-306, 307, 308, 309, 310, 311, 312 and 313 that we  
19 find that the conduit should be valued based on personal  
20 property manual which indicates a 30-year economic life and  
21 that the telecommunication equipment shelters are real  
22 property and should be treated as real property and have a  
23 50-year economic life.  
24 MEMBER MARTIN: So the fiber optic stays at 15?  
25 MEMBER JOHNSON: Correct.

1 CHAIRMAN WREN: Okay. Great. Perfect. Thank  
2 you. And if I can be of help, I'm more than happy to come in  
3 with my two cents worth.  
4 (The court reporter interrupts)  
5 MEMBER MARTIN: Terry, this issue came before us  
6 because it's no longer centrally assessed but now it's county  
7 by county on their equipment and how that's handled. I don't  
8 know if it's proper for me to ask or not, but I'm throwing it  
9 out there. Sorry. Is this going -- Is this the only issue  
10 that I obviously missed of things changing in the State of  
11 Nevada from central assessment that it will now be up to the  
12 counties? Or is there -- I'm sure there's got to be more  
13 than Telecommunications or video.  
14 MS. RUBALD: This particular issue only arose  
15 because of the change in the law --  
16 MEMBER MARTIN: Right.  
17 MS. RUBALD: -- for central assessment. But as I  
18 mentioned previously, we still have 20-some telecommunication  
19 companies that are centrally-assessed as not identified as  
20 having video services. So they will remain  
21 centrally-assessed until we identify them as having the video  
22 service.  
23 CHAIRMAN WREN: Okay. And whatever happens in  
24 your workshop will affect those also regardless of the fact  
25 of how they're centrally assessed or locally assessed; right?

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1 MS. RUBALD: No. Because centrally assessed is a  
2 unitary valuation and we use the historic cost less the book  
3 depreciation, which I mentioned at least level three case was  
4 based on the 25 to 50-year loan.  
5 CHAIRMAN WREN: Okay. That makes sense. Okay.  
6 So the big question is can we finish today or are we coming  
7 back tomorrow?  
8 MS. RUBALD: Well, I think we can probably  
9 finish. But I would like if you want to get to Lincoln,  
10 Pershing and Storey, I believe has already stipulated. So  
11 that would leave the cases about untimely appeals and then we  
12 do have -- and in that we have Smokin Snowboards, which isn't  
13 related to AT&T, and that gentleman is here right now.  
14 CHAIRMAN WREN: Okay. So all the rest -- all the  
15 other ones were untimely filed, right, for the same reason?  
16 MS. RUBALD: Everything in Section I was not  
17 timely filed.  
18 CHAIRMAN WREN: Okay. Let's call those and see  
19 if we can get through them.  
20 MS. RUBALD: Do you want to finish the ones in  
21 Section G? H, I mean.  
22 CHAIRMAN WREN: Yeah, I guess we have to.  
23 MS. RUBALD: Okay.  
24 CHAIRMAN WREN: Is it the same people, the same  
25 argument?

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1 MS. RUBALD: Yes. Let me if I may. And I'd like  
2 to call 14-314 and 14-315. It's Level 3 Communications.  
3 It's the Lincoln County assessor. Case 14-316 has been  
4 withdrawn.  
5 CHAIRMAN WREN: Okay. Go ahead identify the  
6 property please.  
7 MS. MCBRIDE: I haven't been sworn in.  
8 CHAIRMAN WREN: Oh, well, go home.  
9 MS. BUONCRISTIANI: Please stand and raise your  
10 right hand.  
11 (Witness was sworn in)  
12 CHAIRMAN WREN: Are you going to be testifying  
13 back there, Mark? Is she going to be testifying? Mark?  
14 UNIDENTIFIED SPEAKER: What's that?  
15 CHAIRMAN WREN: Is she going to be testifying?  
16 UNIDENTIFIED SPEAKER: She is.  
17 CHAIRMAN WREN: Okay. Let's go ahead and get you  
18 sworn in. Go ahead and swear her in too.  
19 MS. RUBALD: And I think the Smoking Snowboards  
20 should stand also.  
21 CHAIRMAN WREN: Anybody that has not been sworn  
22 in and will testify today.  
23 UNIDENTIFIED SPEAKER: I was sworn in this  
24 morning.  
25 (The witnesses were sworn in)

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1 CHAIRMAN WREN: Including the testimony you  
2 already gave.  
3 Okay. Go ahead.  
4 MS. MCBRIDE: I'm Melanie McBride from --  
5 CHAIRMAN WREN: Go ahead. I'm sorry.  
6 MS. MCBRIDE: I'm Melanie McBride from the  
7 Lincoln County Assessor's Office. I started to do a  
8 stipulation agreement with Level 3 on the computer-based  
9 switching equipment because they amended their declaration on  
10 September 29th, yeah, September 29th of 2014. So I think  
11 that you've already agreed upon that and I don't have a  
12 problem with it. I guess I'll let Level 3 talk because they  
13 haven't actually said what problem they have with the rest of  
14 my, you know --  
15 CHAIRMAN WREN: Assessment.  
16 MS. MCBRIDE: -- Values that I had set.  
17 CHAIRMAN WREN: Okay. Go ahead.  
18 MR. BANCROFT: Lincoln County is -- Let me check  
19 my summary here. The issues -- The only issues with Lincoln  
20 County are the reclassification of the computer-based optical  
21 transmission equipment from a 15 to a five-year life, which  
22 you approved in the Elko case, and the treatment of the  
23 SCIF-type equipment shelters an issue you dealt with in the  
24 prior case. And so, you know, what we're arguing for in --  
25 on both those issues is the same thing we argued in the prior

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1 case, the five-year life for the computer-based optical  
2 transmission equipment and a 15-year life for the SCIF-type  
3 shelter.  
4 Elko County -- or Lincoln County is I don't  
5 believe has a problem with the shift on the computer-based  
6 transmission equipment. They have the equipment shelter on  
7 at a 50-year life and so I'm not going to reargue the case.  
8 It's the same two issues as in the prior.  
9 CHAIRMAN WREN: Okay. So they're at five and 50  
10 already, which is what we approved a minute ago, right, five  
11 years and 50?  
12 MR. BANCROFT: Well, you'll have to ask Melanie,  
13 but I believe based on our refile declaration she's prepared  
14 to switch the computer-based optical transmission to a  
15 five-year life.  
16 CHAIRMAN WREN: Melanie, is that correct?  
17 MS. MCBRIDE: Yes, that's correct.  
18 CHAIRMAN WREN: And you've got the SCIF's at 50?  
19 MS. MCBRIDE: Yes.  
20 CHAIRMAN WREN: Okay. Any other comments you  
21 want to make? Melanie?  
22 MS. MCBRIDE: No.  
23 MS. BUONCRISTIANI: The state board comments on  
24 the basis of their decision, incorporate those in to this  
25 record.

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1 CHAIRMAN WREN: Yeah. I'm going to incorporate  
2 all the comments, discussion and evidence from the prior case  
3 in to this case and close the case and entertain a motion.  
4 MEMBER MESERVY: The motion that I have on 13  
5 dash -- 14-314 and 14-315 is that we uphold the amount to  
6 be -- or 50 years for the shelter and five years for the  
7 computer-based equipment, the central office for five years.  
8 Is that the only ones in contention that we need to adjust  
9 for from what was assessed?  
10 MR. BANCROFT: Yes.  
11 MS. MCBRIDE: As far as I know. They haven't  
12 talked about anything else.  
13 MEMBER MESERVY: That would be my motion.  
14 CHAIRMAN WREN: Is there a second?  
15 MEMBER MARTIN: Second.  
16 CHAIRMAN WREN: Discussion? All in favor say  
17 aye.  
18 (The vote was unanimously in favor of the motion)  
19 CHAIRMAN WREN: Opposed? Motion carries. Thank  
20 you very much. Next case, please.  
21 MS. RUBALD: Mr. Chairman, the next cases are  
22 14-317 and 14-318. They're both Level 3 Communications, LLC.  
23 And the Pershing County assessor is the respondent.  
24 CHAIRMAN WREN: Okay. Where's Pershing? There  
25 she is. You guys keep hiding back there.

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1 MS. HAMILTON: I'm trying.  
2 CHAIRMAN WREN: Go ahead and identify yourself  
3 again and the property.  
4 MS. HAMILTON: My name is Celeste Hamilton,  
5 Pershing County assessor. The property or the personal  
6 property is Level 3 Communications and it has been assessed  
7 at a 50-year life, the same as the others.  
8 CHAIRMAN WREN: All categories?  
9 MS. HAMILTON: Yes.  
10 CHAIRMAN WREN: Okay. Go ahead.  
11 MR. BANCROFT: There's three categories of  
12 reported property that are at issue in this case. The first  
13 is the -- what was initially reported as central office  
14 equipment but upon further review was identified as  
15 computer-based optical transmission equipment. We believe  
16 that the computer-based optical transmission equipment should  
17 be depreciated on a five-year life, which would then make it  
18 consistent with what's done in Clark County and Washoe County  
19 and in the two prior cases you just approved.  
20 The other two categories -- or the second  
21 category is fiber optic cable. We believe it should be  
22 depreciated on a 15-year life, which would make it consistent  
23 then with what's done in Washoe and Clark Counties and what  
24 your motion was in the Elko County case.  
25 And the third category is conduit systems. We

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1 contend that the conduit systems should be depreciated on a  
2 15-year life to make it consistent with how it's treated in  
3 Clark, Washoe, Nye, Mineral Counties. But I understand that  
4 there is -- some people believe it should be recharacterized  
5 as distribution plant and depreciated over a 30-year life.  
6 In any event, nobody is advocating a 50-year life and that's  
7 what it's on.  
8 So I'd ask that the first category,  
9 computer-based optical, be reduced to a five-year. Second  
10 category, fiber optic cable to a 15-year. And that the  
11 conduit systems be reduced to a 15-year life as well.  
12 CHAIRMAN WREN: You're kind of on a roll. Zero,  
13 50, 50, two-thirds. I can't wait to see what the next one  
14 is. Okay. Do you have any comments?  
15 MS. HAMILTON: I don't.  
16 CHAIRMAN WREN: Okay. I'm going to close the  
17 case. Entertain a motion.  
18 MEMBER MESERVY: On 14-317 and 14-318, the  
19 computer-based central office on a five-year, are we able to  
20 identify those assets?  
21 MS. HAMILTON: Yes.  
22 MEMBER MESERVY: And the fiber optic at 15 years  
23 with the conduit systems at 30 years.  
24 MEMBER JOHNSON: Second.  
25 CHAIRMAN WREN: Discussion? All in favor say

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1 aye.  
2 MEMBER MESERVY: Aye.  
3 MEMBER MARTIN: Aye.  
4 MEMBER JOHNSON: Aye.  
5 CHAIRMAN WREN: Aye. Opposed?  
6 MEMBER HARPER: Nay.  
7 CHAIRMAN WREN: It's okay. Just before I accept  
8 the vote, I want to make sure I've incorporated all the  
9 testimony from the prior cases in to this one and the vote is  
10 four to one and passes.  
11 Okay. Next case.  
12 MS. RUBALD: Mr. Chairman, the next case is  
13 14-377, Nevada Bell Telephone doing business as AT&T Nevada.  
14 And the Storey County assessor is the respondent.  
15 CHAIRMAN WREN: Okay. Let's put somebody on the  
16 spot. Identify the property, please.  
17 MS. SEDDON: This is Jana Seddon, Storey County  
18 assessor. This is Case Number 14-30 -- 377. This is Nevada  
19 Bell Telephone Company. And it's their commercial account  
20 1514. We had previously entered in to a stipulated agreement  
21 with Mr. Brown from AT&T. However, based on in light of the  
22 previous testimony, on the front page of the stipulation, we  
23 have a provision that says in the event that the methodology  
24 used to develop the original assessment of this property is  
25 upheld by the State Board of Equalization, this stipulation

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1 becomes null and void.  
2 However, what I'm asking the board today is to  
3 withdrawal the stipulation in order to be able to be revised  
4 that the 15-year life schedule that we entered in to on the  
5 stipulation on the conduit be revised to 30-year.  
6 CHAIRMAN WREN: Okay. Are you guys the --  
7 MR. MCKEAN: Excuse me. Bill McKean for the  
8 record and I represent AT&T in this, Nevada Bell DBA AT&T.  
9 We approached the Storey County assessor after having entered  
10 in to a stipulation with Washoe County. And the basis for  
11 the stipulation with Washoe County was to equalize property  
12 tax treatment between similarly-situated taxpayers. And as  
13 it has been stated on the record that Clark County has been  
14 historically valuing similarly-situated taxpayers' conduit at  
15 a 15-year life. And I think there was some discussion of  
16 whether my statements were hearsay. The Clark County  
17 Assessor's Office is still represented in Clark County. I  
18 would like to leave the board to call the assessor's  
19 representative as a witness.  
20 CHAIRMAN WREN: No.  
21 MR. MCKEAN: Then I'll make an offer of proof.  
22 The witness --  
23 CHAIRMAN WREN: Wait, wait, wait. Let's go off  
24 the record for a second.  
25 (Pause in the proceedings)

1 board's prerogative to make the decision that they feel is  
2 appropriate to equalize all of the counties. And I would  
3 have to say I'm neutral on the issue.  
4 MR. MCKEAN: And Ms. Goodman?  
5 MS. GOODMAN: I agree. It's the board's  
6 prerogative to, you know, decide on the value. And I believe  
7 we all need to be equitable. That's what I'm looking for is  
8 the equity among the counties and the different taxpayers.  
9 MR. MCKEAN: Well, in hearing this ruling today  
10 will other entities in Clark County be affected while you're  
11 making changes to their assessments?  
12 MR. SCOTT: Ultimately, yes.  
13 MR. MCKEAN: What about for the current tax year,  
14 the 13-14 tax year?  
15 MR. SCOTT: We would make the decision  
16 prospective going forward.  
17 MR. MCKEAN: So are there other telecommunication  
18 companies in Clark County for the 13-14 tax year whose  
19 conduit is being valued on a 15-year life schedule? And I'm  
20 saying other taxpayers besides Level 3 or AT&T.  
21 MS. GOODMAN: Yes.  
22 MR. MCKEAN: And is that entity the largest  
23 telecommunication carrier in the state?  
24 MS. GOODMAN: Level 3?  
25 MR. MCKEAN: No. The one who is the other

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1 CHAIRMAN WREN: I thought I had already asked for  
2 Clark County's.  
3 MR. MCKEAN: That was in a different case. And  
4 I understand you're doing some incorporation, but it was your  
5 questions. I didn't get to ask any taxpayer questions and  
6 I'd like that opportunity. It's not going to be a lengthy  
7 questionnaire.  
8 CHAIRMAN WREN: Okay. Go ahead. And Jana,  
9 you'll be able to cross-examine the attorney. It will be  
10 pretty cool.  
11 MR. MCKEAN: Lori Goodwin. Goodman.  
12 CHAIRMAN WREN: Lori Goodman, come forward,  
13 please.  
14 MS. GOODMAN: This is Lori Goodman.  
15 MR. MCKEAN: And Doug Scott is there as well. A  
16 panel is great with the chairman's indulgence.  
17 MR. SCOTT: Doug Scott present for Clark County  
18 also.  
19 CHAIRMAN WREN: You need to scoot over in front  
20 of the camera. Move over, Doug. There you go. Go ahead.  
21 MR. MCKEAN: Thank you. From Clark County  
22 Assessor's Office perspective does the ruling of the board  
23 today raise policy concerns and concerns for Clark County?  
24 And Mr. Scott, please go first if you want to go first.  
25 MR. SCOTT: I would have to say that it's the

1 taxpayer who is receiving the 15.  
2 MS. GOODMAN: No.  
3 MR. MCKEAN: There's multiple other ones?  
4 MS. GOODMAN: There's multiple, yes.  
5 MR. MCKEAN: And is it your understanding that  
6 those other taxpayers compete with AT&T Level 3?  
7 MS. GOODMAN: Yes.  
8 MR. MCKEAN: So in your view would the valuation  
9 methodology between Clark County for the telecommunications  
10 carriers at a 15-year life for conduit be equalized for the  
11 13-14 tax year with conduit being valued in Washoe County?  
12 MS. GOODMAN: I believe so.  
13 MR. SCOTT: I have no opinion on that.  
14 MR. MCKEAN: So the -- the same life is being  
15 used for the 13-14 tax year in Washoe County and Clark  
16 County?  
17 MR. SCOTT: I don't know. You'll have to ask  
18 Washoe County.  
19 MR. MCKEAN: Okay. So there's a difference  
20 between the two counties for this 13-14 tax year because  
21 you're not going to fix -- you're not going to adjust the  
22 other taxpayers' conduit to a 30-year life for the 13-14 tax  
23 year?  
24 MR. SCOTT: We would have to wait for a state  
25 board decision before we move forward.

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1 MR. MCKEAN: So absent an order from the state  
2 board, the other taxpayers in Clark County are going to still  
3 receive 15 years and pay taxes for the 13-14 tax year on a  
4 15-year life for their conduit?

5 MR. SCOTT: It sounds to me like the decision is  
6 being made in the middle of a fiscal tax year.

7 MR. MCKEAN: I agree with that. So do you have  
8 an answer to my question?

9 MR. SCOTT: I would have to say that going  
10 forward that we have to be consistent in the way it's valued.  
11 So if the state board renders a decision that this is how we  
12 value property and you apply the same methodology, Level 3  
13 Communications, we would also apply that to our other  
14 telecommunications companies.

15 MR. MCKEAN: For the 2013-14 tax year, the tax  
16 year we're discussing today?

17 MR. SCOTT: Sure. No. For the current tax year.

18 CHAIRMAN WREN: Let me stop the questioning just  
19 to make sure I understand. Are you representing these other  
20 taxpayers somehow some way, are you representing them here  
21 today?

22 MR. MCKEAN: No.

23 CHAIRMAN WREN: Is the assessor of the county  
24 representing them here today? I don't think so. So I don't  
25 want to talk about them.

1 and the people who are being asked the questions in Clark  
2 County came up unaware that anything was going to happen. So  
3 if that's going to be an issue, I think that needs to be  
4 something where everybody has a chance to have input as to  
5 what is going on, instead of just a kind of a last minute  
6 kind of a thing. Because nobody's attorney is here to  
7 represent them in terms of what's going on.

8 MR. MCKEAN: I appreciate that. I think Lori  
9 Goodman is the person who does the personal property  
10 valuation for the telecommunication companies in Clark  
11 County.

12 CHAIRMAN WREN: Okay. Very good. So back to  
13 Storey County. I guess my original question was they have  
14 made an offer of stipulation. Do you want to agree it to or  
15 do you want to keep arguing the case? Isn't that what you  
16 did.

17 MS. SEDDON: I asked for the stipulation that we  
18 entered in to based on the verbiage that in the stipulation  
19 to be withdrawn and amended.

20 CHAIRMAN WREN: Right.

21 MS. SEDDON: Yes. I just want to make sure we're  
22 all on the same page.

23 MR. MCKEAN: And I guess for clarity, the  
24 difference would be the conduit would be changed to 30-year  
25 life and of course I'm not agreeing with that. I think it

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1 MR. MCKEAN: You don't want to talk about  
2 equalization between the counties?

3 CHAIRMAN WREN: No, that's not what I said. What  
4 I said is I don't want to talk -- You asked if you could ask  
5 questions and I've got you and I appreciate that. I  
6 understand exactly what you're trying to get them to say,  
7 which is fine, but it's not necessarily germane because  
8 you're not representing those other taxpayers, nor are they  
9 represented here, nor is Clark County represented here. So  
10 let's not talk about them.

11 MR. MCKEAN: Mr. Chairman, there's been a lot of  
12 talk about equalization and similarly-situated taxpayers are  
13 entitled to equal treatment. And the clear evidence, not  
14 just hearsay, the clear evidence is that taxpayers in Clark  
15 County are being treated one way for the 2013-14 tax year and  
16 taxpayers in Washoe County are being treated a different way  
17 for the same tax year and I guess as long as --

18 CHAIRMAN WREN: You have that on the record.

19 MR. MCKEAN: Thank you very much. No further  
20 questions.

21 CHAIRMAN WREN: Okay. Any questions?

22 MS. BUONCRISTIANI: I'd like to state for the  
23 record that I don't think that issue was aired sufficiently.  
24 I think that that has come up in the middle of a hearing.  
25 The assessor who is before us isn't knowledgeable about that

1 should be equalized between the county and the state.

2 CHAIRMAN WREN: Okay. That's fine.

3 MR. BANCROFT: But the alternatives, you know,  
4 there's a stipulated agreement and there's this clause down  
5 here that says I can back out of this stipulation in one  
6 situation. That's not this situation. It's if this board  
7 decides a 50-year life is correct, it goes back to the  
8 original assessment of this property. That's not what she's  
9 asking now. It's not the original assessment. She wants a  
10 30-year life.

11 CHAIRMAN WREN: What page is the stipulation on?

12 MS. SEDDON: Actually I believe -- No, the board  
13 doesn't have it. We -- Mr. Brown signed it yesterday. They  
14 don't have an original copy with my signature on it yet.

15 MS. RUBALD: Mr. Chairman, Anita has a copy of  
16 it. Do you wish to see it?

17 CHAIRMAN WREN: Yes, please.

18 Dawn, I guess it's late in the day for me. But  
19 we've got a stipulation here that the petitioner agrees to  
20 the above stipulation in the event that the methodology used  
21 to develop the original assessment of this property is  
22 upheld. Do we know what the original assessment is?

23 MS. BUONCRISTIANI: You can ask where it is.

24 CHAIRMAN WREN: Where is it?

25 MS. SEDDON: It's attached.



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1 CHAIRMAN WREN: Okay. I'll turn the page.  
2 MEMBER JOHNSON: A question for you, Dawn. Do we  
3 have to accept a stipulation?  
4 MS. BUONCRISTIANI: We do have to approve it.  
5 (The court reporter interrupts)  
6 CHAIRMAN WREN: This is the first time we've ever  
7 had a stipulation that says here's a stipulation, but if it  
8 doesn't go my way it's null and void. Don't do that again.  
9 MS. SEDDON: We're waiting for direction from the  
10 board.  
11 (The court reporter interrupts)  
12 MS. BUONCRISTIANI: The stipulation still has to  
13 be approved by the board.  
14 CHAIRMAN WREN: Okay. I'm going to close the  
15 case. I gave you guys the last word; right? Do you remember  
16 that?  
17 MR. MCKEAN: Yes. And thank you very much.  
18 CHAIRMAN WREN: Thank you. I'm willing to  
19 entertain a motion that we don't accept the stipulation and  
20 then I would entertain a motion to assess these properties  
21 exactly the same way we did with the other cases and  
22 incorporate all the record and testimony from everything.  
23 MEMBER MESERVY: On 14-377, so moved.  
24 CHAIRMAN WREN: Is there a second?  
25 MEMBER JOHNSON: Second.

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1 CHAIRMAN WREN: Discussion? All in favor say  
2 aye.  
3 MEMBER MESERVY: Aye.  
4 MEMBER MARTIN: Aye.  
5 MEMBER JOHNSON: Aye.  
6 CHAIRMAN WREN: Aye. Opposed?  
7 MEMBER HARPER: Nay.  
8 CHAIRMAN WREN: Motion carries.  
9 MS. RUBALD: Mr. Chairman, the next two are  
10 stipulated agreements, Case Number 14-387 and 14-388. 14-387  
11 is Nevada Bell Telephone Company doing business as AT&T  
12 Nevada and 14-388 is AT&T Communications. The respondent in  
13 both cases is Eureka County assessor.  
14 CHAIRMAN WREN: Now, just to throw this fly up on  
15 the wall, your stipulated agreement is not uniform with all  
16 the other decisions we just made, is it?  
17 MR. MEARS: Mr. Chair, Michael Mears for the  
18 record. That would be correct.  
19 CHAIRMAN WREN: Okay. So I just want to put that  
20 on the record that that's true. That we also prior to these  
21 had stipulated agreements that we were just stipulating to  
22 the value. Now, is this stipulation just to value or is it  
23 to the methodology you used to get to that value?  
24 MR. MEARS: It is the methodology I used to get  
25 to the value. I took the conduit and the fiber optic from a

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1 50-year life down to a 15-year life to come up with the new  
2 assessed value that we stipulated to.  
3 CHAIRMAN WREN: And is everything else in  
4 accordance with the way we ruled?  
5 MR. MEARS: Yes.  
6 CHAIRMAN WREN: So having said that, given what  
7 we've already done, we would just move that from 15 up to 30,  
8 if we're staying in line with the other decisions made;  
9 correct?  
10 MR. MEARS: Yes.  
11 CHAIRMAN WREN: Okay. So did everybody  
12 understand what he said and what I said?  
13 MEMBER MESERVY: Yeah. But they probably won't  
14 accept the stipulations.  
15 CHAIRMAN WREN: We don't have to accept the  
16 stipulation. That's the reason I wanted to bring it up  
17 first. I'm going to give you guys --  
18 MEMBER MESERVY: And incorporate the other cases?  
19 CHAIRMAN WREN: Yeah. I'm going to  
20 incorporate -- No matter what we do, I'm going to incorporate  
21 all the other cases and testimony. I'm just saying we need  
22 to start being consistent here. We don't have to accept the  
23 stipulation like we did the other ones because they were just  
24 value and now the testimony this isn't value, this is  
25 methodology.

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1 MR. MCKEAN: And I don't have anything else to  
2 add to what we previously discussed, the equalization issue  
3 among the counties.  
4 CHAIRMAN WREN: Thank you. I'll close the case.  
5 And I guess the easiest way to put it is entertain a motion  
6 that we don't accept the stipulation but that we have the  
7 assessor set the life on these at the same level as we have  
8 the prior cases.  
9 MEMBER MESERVY: On 14-387 and 14-388, so moved.  
10 MEMBER MARTIN: Second.  
11 CHAIRMAN WREN: Discussion? All in favor say  
12 aye.  
13 MEMBER MESERVY: Aye.  
14 MEMBER MARTIN: Aye.  
15 MEMBER JOHNSON: Aye.  
16 CHAIRMAN WREN: Aye. Opposed?  
17 MEMBER HARPER: Nay.  
18 CHAIRMAN WREN: Motion carries. So if we take  
19 the Band-Aid off your nose can you say aye?  
20 MEMBER HARPER: No. Not as long as it's conduits  
21 within 30 years.  
22 CHAIRMAN WREN: Where are we? Next case.  
23 MS. RUBALD: Mr. Chairman, we would move on to  
24 the recommendations by the secretary to dismiss. And due to  
25 the time, do you wish to continue the telephone companies? I

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1 do wish to bring to your attention Case Number 14-408, which  
2 isn't telecommunications, and that gentleman is here.  
3 CHAIRMAN WREN: Okay. How are we doing on time?  
4 MS. RUBALD: Well, we're getting close to being  
5 in trouble.  
6 MEMBER HARPER: Mr. Chairman, this clock up there  
7 on that side is right.  
8 MS. MOORE: We're not in trouble yet. We're  
9 almost in trouble.  
10 CHAIRMAN WREN: Okay. So let's go ahead and  
11 take -- Let's see if we can get the snowboard I guess, is  
12 that what you're saying?  
13 MS. RUBALD: Yes.  
14 CHAIRMAN WREN: Let's see if we can get that  
15 done.  
16 MS. RUBALD: Therefore I'd like to call Case  
17 Number 14-408 under Section I. Petitioner is Smoking  
18 Snowboards, personal property. Washoe County is the  
19 assessor, the respondent. And in this case the appeal was  
20 filed late to this board.  
21 CHAIRMAN WREN: And your recommendation was as  
22 to?  
23 MS. RUBALD: To dismiss the appeal.  
24 CHAIRMAN WREN: Okay. So I need standard of law  
25 for a late submittal.

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1 MS. BUONCRISTIANI: Standard for filing late to  
2 the state board is whether there were circumstances beyond  
3 the control of the taxpayer as to why you didn't file timely.  
4 CHAIRMAN WREN: Okay. So identify yourself.  
5 MR. QUINTIN: My name is Jay Quintin for the  
6 record. Last name Q-u-i-n-t-i-n. And I don't have any  
7 excuse for being late. I'm not trying to come up with a  
8 bunch of excuses. The assessment is incorrect for the  
9 property at my snowboard factory.  
10 CHAIRMAN WREN: All we can deal with at the  
11 moment is why you were late. We've got to kind of do this in  
12 a certain order. It depends on whether we even hear your  
13 case. Why were you late?  
14 MR. QUINTIN: The moment that the gentleman told  
15 me that I needed to talk about this, I went in that day and  
16 talked to him and filed it that day within five minutes. So  
17 I had a bookkeeper there told me that they had taken care of  
18 it. They called me. I was in within 15 minutes. I went in  
19 to the office, filed the paperwork and gave them the correct  
20 information for my company.  
21 The year before, I paid \$1300 when it should have  
22 only been about \$700 because I'm new and I didn't know and I  
23 just paid it. And you guys, from what I'm seeing here, you  
24 guys want what's fair and what's fair is to charge somebody  
25 for what their property is worth. I'm not trying to not pay

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1 my taxes. I just want to pay what it's worth.  
2 CHAIRMAN WREN: Okay. I'm sorry. I've got to do  
3 it this way. You were late and standard of law there has to  
4 be a good reason you were late.  
5 MR. QUINTIN: There is a good reason. I was  
6 always taught not to give excuses, so I'm not trying to give  
7 you an excuse. The reason --  
8 CHAIRMAN WREN: Well --  
9 (The court reporter interrupts)  
10 MR. QUINTIN: Sorry. I don't want to lie. I  
11 don't have an excuse. I was taught that as a kid not to make  
12 excuses and I don't have an excuse.  
13 CHAIRMAN WREN: And I appreciate that.  
14 MR. QUINTIN: I know that's not what you want to  
15 hear, but --  
16 CHAIRMAN WREN: No, it is what I want to hear.  
17 We have rules. We want to be fair, but we have real specific  
18 rules we have to adhere to and one of those is timely  
19 filings, okay. So we have to make a determination whether or  
20 not we're even going to hear this case since it was late.  
21 And your testimony is you were just late and I appreciate  
22 that.  
23 MR. QUINTIN: I've never -- I didn't know and I  
24 would never be late again. I'm new to -- I'm new to  
25 business. I'm a snowboarder and I'm selling a lot of

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1 snowboards and I'm trying to hold on to the reigns and it's  
2 very difficult.  
3 CHAIRMAN WREN: And you might get another  
4 opportunity. Hold that thought.  
5 Okay. I need a motion whether or not to hear  
6 this case.  
7 MEMBER HARPER: I'll make a motion in Case 14-408  
8 that we not accept jurisdiction and hear the case because of  
9 late filing. There was no reason given that would meet the  
10 standard for late filing.  
11 CHAIRMAN WREN: Is there a second?  
12 MEMBER MARTIN: Second.  
13 CHAIRMAN WREN: Okay. Comments? I just want the  
14 petitioner to know that this isn't personal, that we have  
15 things that we just kind of have to put our foot down --  
16 MR. QUINTIN: I just want to say for the  
17 record --  
18 CHAIRMAN WREN: No, don't say anything.  
19 MR. QUINTIN: For the record --  
20 CHAIRMAN WREN: Don't say anything.  
21 MEMBER JOHNSON: And I was going to say the same  
22 thing, that we've had a lot of cases they've been filed late  
23 and we have to uphold. We follow the rules unfortunately or  
24 fortunately, but.  
25 MR. QUINTIN: I respect that. Thank you for

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1 saying that. I feel like --  
2 CHAIRMAN WREN: Wait a minute. All in favor say  
3 aye.  
4 (The vote was unanimously in favor of the motion)  
5 CHAIRMAN WREN: Opposed? Motion carries.  
6 Okay. Unfortunately we're not going to hear your  
7 case.  
8 MR. QUINTIN: Can I even say anything about it?  
9 CHAIRMAN WREN: No. But you can come back next  
10 year. File on time.  
11 MR. QUINTIN: I feel like I'm being treated like  
12 the Mafia. Pay \$20,000 when it's not true. It's not right.  
13 It's not fair. It's not right, seriously. It's not fair  
14 either. This is over \$600. It's ridiculous.  
15 CHAIRMAN WREN: Next case, please.  
16 MS. RUBALD: Mr. Chairman, the next cases are all  
17 the telecommunications cases from 14-397 through 14-407 that  
18 are listed in Section I. They involve Nevada Bell Telephone  
19 Company doing business as AT&T Nevada and AT&T  
20 Communications. The respondents in these cases are Humboldt,  
21 Churchill, Lander, Lyon, Pershing and White Pine Counties.  
22 And in each case the appeal was filed late to the state  
23 board.  
24 CHAIRMAN WREN: Okay. You've heard the standard  
25 of law. Why did you file late?

1 owned electric transmission lines in Clark County and for  
2 nearly 40 years had been centrally assessed and taxed by  
3 Clark County. In 1997 -- In 1979, after 40 years,  
4 Metropolitan Water discovered that it was being treated  
5 different than other similarly-situated taxpayers. It had  
6 been taxed at historical costs without depreciation while  
7 other property taxpayers were receiving depreciation on their  
8 centrally-assessed property.  
9 In 1979, after 40 years, it paid its tax under  
10 protest and filed an appeal with the Department of Tax. And  
11 Clark County argued the taxpayer was derelict in failing to  
12 file on time and the Court disagreed. The Supreme Court  
13 ruled in favor of the taxpayer. It said, and I quote, "The  
14 water district had absolutely no reason to suspect it was  
15 being singled out for discriminatory tax treatment.  
16 To put the burden of investigation upon the water  
17 district as respondents suggest would require the water  
18 district to make gratuitous inquiries as to the methods used  
19 to assess not only itself but other similar entities. It  
20 would be unfair to impose such a duty upon a tax entity. And  
21 we hold that no such duty exists.  
22 The Court in that case, in the Metropolitan Water  
23 case, ruled the limitations period was by law extended until  
24 taxpayer knew or had reason to know that its rights to equal  
25 tax treatment had been violated.

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1 MS. BUONCRISTIANI: In this particular case, if  
2 I'm understanding it correctly, a taxpayer, there were  
3 circumstances -- there are circumstances listed that  
4 regarding the late-filed appeal, but there are also legal  
5 reasons why an appeal can be filed late. And so there are  
6 two different things in this particular case that may be  
7 under consideration.  
8 CHAIRMAN WREN: Okay.  
9 MR. MCKEAN: And I'm prepared to address both the  
10 legal and the factual in my presentation here. In August,  
11 Nevada Bell and AT&T stipulated to Washoe County and you've  
12 heard those cases. Those are Cases 378 and 379 today, 14-378  
13 and 379. As previously noted, the stipulations were based on  
14 Washoe's recognition that Clark, Nye and Mineral Counties all  
15 were using the 15-year life --  
16 (The court reporter interrupts)  
17 MR. MCKEAN: -- for telecommunications property.  
18 On September 9th, Nevada Bell filed its late-filed appeals to  
19 the state board. And in that appeal that you have before  
20 you, it explained that the statutory deadline not bar  
21 correcting unconstitutional assessment and the deadline is  
22 told until the taxpayer knew its rights had been violated.  
23 In our pleading before you, we cited a case,  
24 Metropolitan Water case, which is 99 Nevada 506, 1983 case.  
25 And it's an instructive case because there Metropolitan Water

1 Accordingly, this case the board has two  
2 decisions. It can either view these petitions as being  
3 timely or the board can exercise its general authority under  
4 NRS 361.395 to equalize similarly-situated properties  
5 throughout the state. And that statute specifies that during  
6 the annual session of the state board, the state board shall  
7 equalize property values in the state and must review the tax  
8 rolls of the counties to do that. And here you've had ample  
9 evidence by the various county assessors that there's a  
10 differential treatment happening for the 2013-14 tax year.  
11 And I think by taking jurisdiction of these petitions or by  
12 entering, operating under a general equalization authority  
13 these are unique circumstances where the taxpayer had no  
14 reason to know and did not know until after it had stipulated  
15 Washoe County and that's immediately thereafter we filed  
16 these, they filed petitions. Thank you.  
17 CHAIRMAN WREN: You didn't mention the Mafia  
18 once.  
19 MR. MCKEAN: I wrote it down.  
20 CHAIRMAN WREN: Okay. So here is the -- I think  
21 he has a good case, as I indicated, they have a good case for  
22 us to take jurisdiction and equalize them as we have with the  
23 prior cases. So what I'm willing to do is to incorporate all  
24 testimony in all cases that we've heard previously today with  
25 a motion and have you move that all of these properties be

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1 assessed similar to the same years that we put on the  
2 previous cases, even though that Mr. Harper is opposed to 30  
3 years.  
4 MEMBER HARPER: I was just -- Do all of these  
5 involve conduit that's being moved to 30 years?  
6 MR. MCKEAN: Yes.  
7 MEMBER MESERVY: So my motion would be I guess  
8 it's section not including 14-408, is that how I can say it?  
9 CHAIRMAN WREN: All the cases called.  
10 MEMBER MESERVY: All the cases called would be  
11 what you had just mentioned, one, to make sure that we also  
12 accept the jurisdiction also. That's the first part of it.  
13 Is that okay? And then that we unless-  
14 MEMBER JOHNSON: Can we take a longer time?  
15 MEMBER MESERVY: Yeah. Why don't we accept  
16 jurisdiction? Can we do that?  
17 MEMBER JOHNSON: One at a time.  
18 MEMBER MESERVY: So my motion is on what was  
19 called to accept jurisdiction.  
20 CHAIRMAN WREN: Is there a second?  
21 MEMBER JOHNSON: I second that.  
22 CHAIRMAN WREN: Discussion? All in favor say  
23 aye.  
24 (The vote was unanimously in favor of the motion)  
25 CHAIRMAN WREN: Opposed? Motion carries.

1 actually hear that case to know whether it was real property  
2 or not. So that's a concern to me.  
3 CHAIRMAN WREN: Well, what you did in all your  
4 motions and I still agree and all the conduit at 30 years, so  
5 let's be consistent with that. And I personally think that  
6 there's some changes that need to be addressed and that's  
7 going to have to be done in a workshop. Today we're being as  
8 consistent as we can be with the information we have before  
9 us.  
10 MEMBER JOHNSON: I would just like to hear each  
11 of them, we've got the assessors here, and make sure there  
12 aren't any issues that are different. If they all are the  
13 same, that's fine. But if there are some slight differences,  
14 I just want to make sure we're not taking one paint brush and  
15 painting across here.  
16 MEMBER MESERVY: I think we should give them that  
17 option, but if they don't want to come up and go through that  
18 process.  
19 CHAIRMAN WREN: I've already invited everybody  
20 up. So they've already consolidated all of the testimony  
21 that's been incorporated. And we're going to be consistent  
22 with our motion as we have been in the previous cases.  
23 MEMBER JOHNSON: Then can we just see if there's  
24 any objection by either side to consolidate them all in to  
25 one motion?

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1 MEMBER MESERVY: The question I have though is  
2 were we supposed to let any of the assessors have anything to  
3 say on that before we voted?  
4 CHAIRMAN WREN: Well, we've taken all the  
5 testimony. Are you going to change it?  
6 MS. RUSSELL: I just wanted to thank you for  
7 that. We all agree and we think it's fair to do this for  
8 AT&T and I just wanted to let you guys know that.  
9 CHAIRMAN WREN: Okay. Thank you. Do any of the  
10 assessors dispute what the Elko assessor just said?  
11 MS. GREEN: I'm retiring, so I can say it. Norma  
12 Green, Churchill County assessor for the record. The only  
13 thing I guess I dispute is the conduit because we've been  
14 referring to the personal property manual and the 30-year  
15 life, which if you deem it personal property I have no  
16 problem with that. But if you stay conduit is real then I  
17 think it should be the 50-year, where I think the conduit  
18 should be 50-year.  
19 CHAIRMAN WREN: And that's why I want to have a  
20 workshop to address that specifically and put specific labels  
21 on these. Churchill retiring.  
22 MS. GREEN: Retiring.  
23 CHAIRMAN WREN: Okay. Thank you. All right.  
24 Dennis, with your second motion then.  
25 MEMBER MESERVY: Well, I guess -- we didn't

1 CHAIRMAN WREN: We already did.  
2 MEMBER JOHNSON: Okay. As long as there isn't  
3 then I'm good.  
4 MEMBER MESERVY: Okay. So then I would like to  
5 make that motion on the Section I on the ones that have been  
6 called that we incorporate the decisions we've used in the  
7 previous cases in using the conduit systems at 30 years and  
8 fiber optic 15, the computer-based five year and stay  
9 consistent with all of those, as well as the shelter at 50  
10 years.  
11 CHAIRMAN WREN: Okay. Is there a second?  
12 MEMBER MARTIN: Second.  
13 CHAIRMAN WREN: Discussion? All in favor say  
14 aye.  
15 MEMBER MESERVY: Aye.  
16 MEMBER MARTIN: Aye.  
17 MEMBER JOHNSON: Aye.  
18 CHAIRMAN WREN: Aye. Opposed?  
19 MEMBER HARPER: Nay.  
20 CHAIRMAN WREN: The motion carries.  
21 All right. Thank you very much. I encourage you  
22 guys if you would when you do these workshops --  
23 MR. MCKEAN: The Mafia will be with us.  
24 CHAIRMAN WREN: This is Nevada.  
25 Okay. Terry.

## 2016-2017 RURAL BUILDING COST MANUAL

### Section 6

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# MISCELLANEOUS COSTS

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Most of the costs in this section are based on professional construction labor supervised by a contractor or his job foreman. Few of these costs should be adjusted downward for farm labor with no professional supervision, as most of these items are professionally installed with contractor supervisor.

## PREFABRICATED TELECOM / COMMUNICATION EQUIPMENT SHELTERS

Costs are for complete installation of small prefabricated modular buildings used for weather- and vandal-resistant equipment storage. Costs include a foundation and all wall, roof, and floor panels. Steel wall vents and entry door, and minimum electrical. Air conditioning and equipment power panel and wiring are not included.

### SQUARE FOOT COSTS

CLASS	100	150	200	300	500	750
1	\$ 114.65	\$ 99.22	\$ 90.41	\$ 77.18	\$ 65.06	\$ 56.79
2	\$ 139.70	\$ 118.21	\$ 108.29	\$ 91.21	\$ 75.78	\$ 64.54
3	\$ 164.75	\$ 137.20	\$ 126.18	\$ 105.24	\$ 86.50	\$ 72.18

NOTE: For very low quality metal or fiberglass structures, reduce Class 3 costs by 55%.



**PREFABRICATED EQUIPMENT SHELTER**



**TELECOM / COMMUNICATION EQUIPMENT SHELTERS**



**LOW QUALITY**



**AVERAGE QUALITY**



**GOOD QUALITY**

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 10-K**

(Mark One):

☒ Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

**For the fiscal year ended December 31, 2014**

☐ Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number: 001-14195

**American Tower Corporation**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
Incorporation or Organization)

**65-0723837**  
(I.R.S. Employer  
Identification No.)

**116 Huntington Avenue**  
**Boston, Massachusetts 02116**  
(Address of principal executive offices)

**Telephone Number (617) 375-7500**  
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each Class	Name of exchange on which registered
Common Stock, \$0.01 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act: Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act: Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days: Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of the Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check One):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act): Yes ☐ No ☒

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of June 30, 2014 was approximately \$35.3 billion, based on the closing price of the registrant's common stock as reported on the New York Stock Exchange as of the last business day of the registrant's most recently completed second quarter.

As of February 13, 2015, there were 396,708,636 shares of common stock outstanding.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the definitive proxy statement (the "Definitive Proxy Statement") to be filed with the Securities and Exchange Commission relative to the Company's 2015 Annual Meeting of Stockholders are incorporated by reference into Part III of this Report.

[Table of Contents](#)**PART I****ITEM 1. BUSINESS****Overview**

We are a global independent owner, operator and developer of communications real estate. Our primary business is the leasing of space on multi-tenant communications sites to wireless service providers, radio and television broadcast companies, wireless data and data providers, government agencies and municipalities and tenants in a number of other industries. We refer to this business as our rental and management operations, which accounted for approximately 98% of our total revenues for the year ended December 31, 2014. Through our network development services business, we offer tower-related services domestically, which primarily support our site leasing business.

Our communications real estate portfolio of 75,594 communications sites, as of December 31, 2014, includes 28,566 communications towers domestically, 46,598 communications towers internationally and 430 distributed antenna system (“DAS”) networks, which provide seamless coverage solutions in certain in-building and outdoor wireless environments. Our portfolio primarily consists of towers that we own and towers that we operate pursuant to long-term lease arrangements. In addition to the communications sites in our portfolio, we manage rooftop and tower sites for property owners under various contractual arrangements. We also hold property interests that we lease to communications service providers and third-party tower operators.

American Tower Corporation was originally created as a subsidiary of American Radio Systems Corporation in 1995 and was spun off into a free-standing public company in 1998. Since inception, we have grown our communications real estate portfolio through acquisitions, long-term lease arrangements and site development. We are a holding company and conduct our operations through our directly and indirectly owned subsidiaries and joint ventures. Our principal domestic operating subsidiaries are American Towers LLC and SpectraSite Communications, LLC. We conduct our international operations primarily through our subsidiary, American Tower International, Inc., which in turn conducts operations through its various international holding and operating subsidiaries and joint ventures.

On February 5, 2015, we signed a definitive agreement with Verizon Communications, Inc. (“Verizon”) pursuant to which we expect to acquire the exclusive right to lease, acquire or otherwise operate and manage up to 11,489 wireless communications sites for \$5.056 billion in cash at closing (the “Proposed Verizon Transaction”), subject to certain conditions and limited adjustments.

We operate as a REIT and therefore are generally not subject to U.S. federal income taxes on our income and gains that we distribute to our stockholders, including the income derived from leasing space on our towers. However, even as a REIT, we remain obligated to pay income taxes on earnings from our taxable REIT subsidiaries (“TRSs”). In addition, our international assets and operations, including those designated as direct or indirect qualified REIT subsidiaries or other disregarded entities of a REIT (collectively, “QRSs”), continue to be subject to taxation in the foreign jurisdictions where those assets are held or those operations are conducted.

The use of TRSs enables us to continue to engage in certain businesses while complying with REIT qualification requirements. We may, from time to time, change the election of previously designated TRSs to be treated as QRSs, and may reorganize and transfer certain assets or operations from our TRSs to other subsidiaries, including QRSs. During the year ended December 31, 2014, we restructured certain of our German subsidiaries and certain of our domestic TRSs, which included a portion of our network development services segment and indoor DAS networks business, to be treated as QRSs. As a result, as of December 31, 2014, our QRSs include our domestic tower leasing business, most of our operations in Costa Rica, Germany and Mexico and a portion of our network development services segment and indoor DAS networks business.

Our continuing operations are reported in three segments: (i) domestic rental and management, (ii) international rental and management and (iii) network development services. For more information about our

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business segments, as well as financial information about the geographic areas in which we operate, see Item 7 of this Annual Report under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and note 21 to our consolidated financial statements included in this Annual Report.

## Products and Services

### *Rental and Management Operations*

Our rental and management operations accounted for approximately 98%, 98% and 97% of our total revenues for the years ended December 31, 2014, 2013 and 2012, respectively. Our revenue is primarily generated from tenant leases. Our tenants lease space on our communications real estate, where they install and maintain their individual communications network equipment. Rental payments vary considerably depending upon numerous factors, including, but not limited to, tower location, amount and type of tenant equipment on the tower, ground space required by the tenant and remaining tower capacity. Our tenant leases are typically non-cancellable and have annual rent escalations. Our primary costs typically include ground rent (which is primarily fixed, with annual cost escalations) and power and fuel costs, some of which may be passed through to our tenants, as well as property taxes and repairs and maintenance. Our rental and management operations have generated consistent incremental growth in revenue and have low cash flow volatility due to the following characteristics:

- **Consistent demand for our sites.** As a result of rapidly growing usage of wireless services and the corresponding wireless industry capital spending trends in the markets we serve, we anticipate consistent demand for our communications sites. We believe that our global asset base positions us well to benefit from the increasing proliferation of advanced wireless devices and the increasing usage of high bandwidth applications on those devices. We have the ability to add new tenants and new equipment for existing tenants on our sites, which typically results in incremental revenue. Our legacy site portfolio and our established tenant base provide us with a solid platform for new business opportunities, which has historically resulted in consistent and predictable organic revenue growth.
- **Long-term tenant leases with contractual rent escalations.** In general, a tenant lease has an initial non-cancellable ten-year term with multiple renewal terms, with provisions that periodically increase the rent due under the lease, typically annually based on a fixed escalation percentage (approximately 3.0% in the United States) or an inflationary index in our international markets, or a combination of both.
- **High lease renewal rates.** Our tenants tend to renew leases because suitable alternative sites may not exist or be available and repositioning a site in their network may be expensive and may adversely affect the quality of their network. Historically, churn has been approximately 1% to 2% of total rental and management revenue per year. We define churn as revenue lost when a tenant cancels or does not renew its lease and, in limited circumstances, such as a tenant bankruptcy, reductions in lease rates on existing leases. We derive our churn rate for a given year by dividing our cash revenue lost on this basis by our comparable year ago period cash rental and management segment revenue.
- **High operating margins.** Incremental operating costs associated with adding new tenants to an existing communications site are relatively minimal. Therefore, as tenants are added, the substantial majority of incremental revenue flows through to operating profit. In addition, in many of our international markets, certain expenses, such as ground rent or fuel costs, are passed through and shared across our tenant base.
- **Low maintenance capital expenditures.** On average, we require relatively low amounts of annual capital expenditures to maintain our communications sites.

Our rental and management operations include the operation of communications towers, managed networks, the leasing of property interests and the provision of backup power through shared generators. Our domestic rental and management segment accounted for approximately 65%, 65% and 67% of our total revenues for the years ended December 31, 2014, 2013 and 2012, respectively.

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Our international rental and management segment, which consists of communications sites in Brazil, Chile, Colombia, Costa Rica, Germany, Ghana, India, Mexico, Peru, South Africa and Uganda, provides a source of growth and diversification, including exposure to markets in various stages of wireless network development. In November 2014, we expanded our global footprint by signing an agreement to acquire over 4,800 communications sites in Nigeria. Our international rental and management segment accounted for approximately 33%, 33% and 30% of our total revenues for the years ended December 31, 2014, 2013 and 2012, respectively.

*Communications Towers.* Approximately 95%, 96% and 96% of revenue in our rental and management segments was attributable to our communications towers for the years ended December 31, 2014, 2013 and 2012, respectively.

We lease real estate on our communications towers to tenants providing a diverse range of communications services, including cellular voice and data, broadcasting, enhanced specialized mobile radio, mobile video and fixed microwave. Our top domestic and international tenants by revenue are as follows:

- **Domestic:** AT&T Mobility, Sprint Nextel, Verizon Wireless and T-Mobile USA accounted for an aggregate of approximately 84% of domestic rental and management segment revenue for the year ended December 31, 2014.
- **International:** Telefónica (in Brazil, Chile, Colombia, Costa Rica, Germany, Mexico and Peru), MTN Group Limited (in Ghana, South Africa and Uganda), Nextel International (in Brazil, Chile and Mexico), Grupo Iusacell, S.A. de C.V. (in Mexico, acquired by AT&T in January 2015) and Vodafone (in Germany, Ghana, India and South Africa), accounted for an aggregate of approximately 57% of international rental and management segment revenue for the year ended December 31, 2014.

Accordingly, we are subject to certain risks, as set forth in Item 1A of this Annual Report under the caption “Risk Factors—A substantial portion of our revenue is derived from a small number of tenants, and we are sensitive to changes in the creditworthiness and financial strength of our tenants.” In addition, we are subject to risks related to our international operations, as set forth under the caption “Risk Factors—Our foreign operations are subject to economic, political and other risks that could materially and adversely affect our revenues or financial position, including risks associated with fluctuations in foreign currency exchange rates.”

*Managed Networks, Property Interests and Shared Generators.* In addition to our communications sites, we also own and operate several types of managed network solutions, provide communications site management services to third parties, manage and lease property interests under carrier or other third-party communications sites and provide back-up power sources to tenants at our sites.

- **Managed Networks.** We own and operate DAS networks primarily in malls and casinos in the United States, Brazil, Chile, Colombia, Ghana, India and Mexico. We obtain rights from property owners to install and operate in-building DAS networks, and we grant rights to wireless service providers to attach their equipment to our installations. We also offer outdoor DAS networks as a complementary shared infrastructure solution for our tenants in the United States. Typically, we design, build and operate our outdoor DAS networks in areas in which zoning restrictions or other barriers may prevent or delay deployment of more traditional wireless communications sites. We also hold lease rights and easement interests on rooftops capable of hosting communications equipment in locations where towers are generally not a viable solution based on area characteristics. In addition, we provide management services to property owners in the United States who elect to retain full rights to their property while simultaneously marketing the rooftop for wireless communications equipment installation. As the demand for advanced wireless devices in urban markets evolves, we continue to evaluate infrastructure, such as small cell deployment, that may support our tenants’ networks in these areas.
- **Property Interests.** We own a portfolio of property interests in the United States under carrier or other third-party communications sites, which provides recurring cash flow under complementary leasing arrangements.

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- **Shared Generators.** We have contracts with certain of our tenants in the United States pursuant to which we provide access to shared backup power generators.

### ***Network Development Services***

Through our network development services, we offer tower-related services domestically, including site acquisition, zoning and permitting services and structural analysis services. Network development services primarily support our site leasing business and the addition of new tenants and equipment on our sites, including in connection with provider network upgrades. This segment accounted for approximately 2%, 2% and 3% of our total revenues for the years ended December 31, 2014, 2013 and 2012, respectively.

*Site Acquisition, Zoning and Permitting.* We engage in site acquisition services on our own behalf in connection with our tower development projects, as well as on behalf of our tenants. We typically work with our tenants' engineers to determine the geographic areas where new communications sites will best address the tenants' needs and meet their coverage objectives. Once a new site is identified, we acquire the rights to the land or structure on which the site will be constructed, and we manage the permitting process to ensure all necessary approvals are obtained to construct and operate the communications site.

*Structural Analysis.* We offer structural analysis services to wireless carriers in connection with the installation of their communications equipment on our towers. Our team of engineers can evaluate whether a tower structure can support the additional burden of the new equipment or if an upgrade is needed, which enables our tenants to better assess potential sites before making an installation decision. Our structural analysis capabilities enable us to provide higher quality service to our existing tenants by, among other things, reducing the time required to achieve operational readiness, while also providing opportunities to offer structural analysis services to third parties.

## **Strategy**

### ***Operational Strategy***

Our operational strategy is to capitalize on the global growth in the use of wireless communications services and the evolution of advanced wireless handsets, tablets and other mobile devices, and the corresponding expansion of communications infrastructure required to deploy current and future generations of wireless communications technologies. To achieve this, our primary focus is to (i) increase the leasing of our existing communications real estate portfolio, (ii) invest in and selectively grow our communications real estate portfolio, (iii) further improve upon our operational performance and (iv) maintain a strong balance sheet. We believe these efforts will further support and enhance our ability to capitalize on the growth in demand for wireless infrastructure.

- **Increase the leasing of our existing communications real estate portfolio.** We believe that our highest returns will be achieved by leasing additional space on our existing communications sites. Increasing demand for wireless services in the United States and in our international markets has resulted in significant capital spending by major wireless carriers. As a result, we anticipate consistent demand for our communications sites because they are attractively located for wireless service providers and have capacity available for additional tenants. In the United States, incremental carrier capital spending is being driven primarily by the build-out of fourth generation (4G) networks, while our international markets are in various stages of network development. As of December 31, 2014, we had a global average of approximately 1.9 tenants per tower. We believe that many of our towers have capacity for additional tenants and that substantially all of our towers that are currently at or near full structural capacity can be upgraded or augmented to meet future tenant demand with relatively modest capital investment. Therefore, we will continue to target our sales and marketing activities to increase the utilization and return on investment of our existing communications sites.



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easements, licenses or rights-of-way granted by government entities. Pursuant to the loan agreement for the securitization transaction completed in March 2013 (the "Securitization"), 5,195 towers in the United States are subject to mortgages, deeds of trust and deeds to secure the loan as of December 31, 2014. In addition, 1,517 property interests in the United States are subject to mortgages and deeds of trust to secure three separate classes of Secured Cellular Site Revenue Notes (the "Unison Notes") assumed in connection with the acquisition of certain legal entities from Unison Holdings LLC and Unison Site Management II, L.L.C. (the "Unison Acquisition"). In connection with our acquisition of MIPT, a private REIT and parent company to Global Tower Partners ("GTP"), we assumed approximately \$1.49 billion principal amount of existing indebtedness under six series, consisting of eleven separate classes, of Secured Tower Revenue Notes issued by certain subsidiaries of GTP in several securitization transactions, of which we repaid one series, consisting of two classes, in August 2014 (the remaining notes, the "GTP Notes"). The GTP Notes are secured by, among other things, 2,845 towers and 1,035 property interests and other related assets.

A typical domestic tower site consists of a compound enclosing the tower site, a tower structure and one or more equipment shelters that house a variety of transmitting, receiving and switching equipment. The principal types of our domestic towers are guyed, self-supporting lattice and monopole.

- A guyed tower includes a series of cables attaching separate levels of the tower to anchor foundations in the ground and can reach heights of up to 2,000 feet. A guyed tower site for a typical broadcast tower can consist of a tract of land of up to 20 acres.
- A self-supporting lattice tower typically tapers from the bottom up and usually has three or four legs. A lattice tower can reach heights of up to 1,000 feet. Depending on the height of the tower, a lattice tower site for a typical wireless communications tower can consist of a tract of land of 10,000 square feet for a rural site or fewer than 2,500 square feet for a metropolitan site.
- A monopole tower is a tubular structure that is used primarily to address space constraints or aesthetic concerns. Monopoles typically have heights ranging from 50 to 200 feet. A monopole tower site used in metropolitan areas for a typical wireless communications tower can consist of a tract of land of fewer than 2,500 square feet.

*International Rental and Management Segment.* Our interests in our international communications sites are comprised of a variety of ownership interests, including leases created by long-term ground lease agreements, easements, licenses or rights-of-way granted by private or government entities. Our financings in Colombia and South Africa are secured by an aggregate of 5,220 towers.

A typical international tower site consists of a compound enclosing the tower site, a tower structure, backup or auxiliary power generators and batteries and one or more equipment shelters that house a variety of transmitting, receiving and switching equipment. The four principal types of our international towers are guyed, self-supporting lattice, monopole and rooftop. Guyed, self-supporting lattice and monopole structures are similar to those in our domestic segment. Rooftop towers are primarily used in metropolitan areas, where locations for traditional tower structures are unavailable. Rooftop towers typically have heights ranging from 10 to 100 feet.

*Ground Leases.* Of the 75,164 towers in our portfolio as of December 31, 2014, approximately 88% were located on land we lease. Typically, we seek to enter ground leases with terms of twenty to twenty-five years, which are comprised of initial terms of approximately five to ten years with one or more automatic or exercisable renewal periods. As a result, approximately 70% of the ground agreements for our sites have a final expiration date of 2024 and beyond.

*Tenants.* Our tenants are primarily wireless service providers, broadcasters and other communications service providers. As of December 31, 2014, our four top tenants by total revenue were AT&T Mobility (20%), Sprint Nextel (15%), Verizon Wireless (11%) and T-Mobile USA (10%). In general, our tenant leases have an initial non-cancellable term of ten years, with multiple renewal terms. As a result, approximately 71% of our current tenant leases have a renewal date of 2020 or beyond.

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through financing activities. If we determine that it is desirable or necessary to raise additional capital, we may be unable to do so, or such additional financing may be prohibitively expensive or restricted by the terms of our outstanding indebtedness. If we are unable to raise capital when our needs arise, we may not be able to fund capital expenditures, future growth and expansion initiatives, satisfy our REIT distribution requirements, pay Mandatory Convertible Preferred Stock dividends or refinance our existing indebtedness.

In addition, our liquidity depends on our ability to generate cash flow from operating activities. As set forth under Item 1A of this Annual Report under the caption “Risk Factors,” we derive a substantial portion of our revenues from a small number of tenants and, consequently, a failure by a significant tenant to perform its contractual obligations to us could adversely affect our cash flow and liquidity.

### Critical Accounting Policies and Estimates

Management’s discussion and analysis of financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, as well as related disclosures of contingent assets and liabilities. We evaluate our policies and estimates on an ongoing basis. Management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying amounts of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We have reviewed our policies and estimates to determine our critical accounting policies for the year ended December 31, 2014. We have identified the following policies as critical to an understanding of our results of operations and financial condition. This is not a comprehensive list of our accounting policies. See note 1 to our consolidated financial statements included in this Annual Report for a summary of our significant accounting policies. In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP, with no need for management’s judgment in its application. There are also areas in which management’s judgment in selecting any available alternative would not produce a materially different result.

- ***Impairment of Assets—Assets Subject to Depreciation and Amortization:*** We review long-lived assets for impairment at least annually or whenever events, changes in circumstances or other indicators or evidence indicate that the carrying amount of our assets may not be recoverable.

We review our tower portfolio and network location intangible assets for indicators of impairment at the lowest level of identifiable cash flows, typically at an individual tower basis. Possible indicators include a tower not having current tenant leases or having expenses in excess of revenues. A cash flow modeling approach is utilized to assess recoverability and incorporates, among other items, the tower location, the tower location demographics, the timing of additions of new tenants, lease rates and estimated length of tenancy and ongoing cash requirements.

We review our customer-related intangible assets on a customer by customer basis for indicators of impairment, such as high levels of turnover or attrition, non-renewal of a significant number of contracts, or the cancellation or termination of a relationship. We assess recoverability by determining whether the carrying amount of the customer-related intangible assets will be recovered through projected undiscounted cash flows.

If the sum of the estimated undiscounted future cash flows of our long-lived assets is less than the carrying amount of the assets, an impairment loss may be recognized. An impairment loss would be based on the fair value of the asset, which is based on an estimate of discounted future cash flows to be provided from the asset. We record any related impairment charge in the period in which we identify such impairment.

- ***Impairment of Assets—Goodwill:*** We review goodwill for impairment at least annually (as of December 31) or whenever events or circumstances indicate the carrying amount of an asset may not be recoverable.

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Goodwill is recorded in the applicable segment and assessed for impairment at the reporting unit level. We utilize the two step impairment test when testing goodwill for impairment and we employ a discounted cash flow analysis. The key assumptions utilized in the discounted cash flow analysis include current operating performance, terminal sales growth rate, management's expectations of future operating results and cash requirements, the current weighted average cost of capital and an expected tax rate. Under the first step of this test, we compare the fair value of the reporting unit, as calculated under an income approach using future discounted cash flows, to the carrying amount of the applicable reporting unit. If the carrying amount exceeds the fair value, we conduct the second step of this test, in which the implied fair value of the applicable reporting unit's goodwill is compared to the carrying amount of that goodwill. If the carrying amount of goodwill exceeds its implied fair value, an impairment loss would be recognized for the amount of the excess.

During the year ended December 31, 2014, no potential impairment was identified under the first step of the test. The fair value of each of our reporting units was in excess of its carrying amount by a substantial margin.

- **Asset Retirement Obligations:** When required, we recognize the fair value of obligations to remove our tower assets and remediate the leased land upon which certain of our tower assets are located. Generally, the associated retirement costs are capitalized as part of the carrying amount of the related tower assets and depreciated over their estimated useful lives and the liability is accreted through the obligation's estimated settlement date.

We updated our assumptions used in estimating our aggregate asset retirement obligation, which resulted in a net increase in the estimated obligation of \$13.2 million during the year ended December 31, 2014. The change in 2014 primarily resulted from changes in timing of certain settlement date and cost assumptions. Fair value estimates of liabilities for asset retirement obligations generally involve discounting of estimated future cash flows. Periodic accretion of such liabilities due to the passage of time is included in Depreciation, amortization and accretion in the consolidated statements of operations. The significant assumptions used in estimating our aggregate asset retirement obligation are: timing of tower removals; cost of tower removals; timing and number of land lease renewals; expected inflation rates; and credit-adjusted risk-free interest rates that approximate our incremental borrowing rate. While we feel the assumptions are appropriate, there can be no assurances that actual costs and the probability of incurring obligations will not differ from these estimates. We will continue to review these assumptions periodically and we may need to adjust them as necessary.

- **Acquisitions:** For those acquisitions that meet the definition of a business combination, we apply the acquisition method of accounting where assets acquired and liabilities assumed are recorded at fair value at the date of each acquisition, and the results of operations are included with those of the Company from the dates of the respective acquisitions. Any excess of the purchase price paid over the amounts recognized for assets acquired and liabilities assumed is recorded as goodwill. We continue to evaluate acquisitions for a period not to exceed one year after the applicable acquisition date of each transaction to determine whether any additional adjustments are needed to the allocation of the purchase price paid for the assets acquired and liabilities assumed. The fair value of the assets acquired and liabilities assumed is typically determined by using either estimates of replacement costs or discounted cash flow valuation methods. When determining the fair value of tangible assets acquired, we must estimate the cost to replace the asset with a new asset taking into consideration such factors as age, condition and the economic useful life of the asset. When determining the fair value of intangible assets acquired, we must estimate the applicable discount rate and the timing and amount of future customer cash flows, including rate and terms of renewal and attrition.
- **Revenue Recognition:** Our revenue from leasing arrangements, including fixed escalation clauses present in non-cancellable lease arrangements, is reported on a straight-line basis over the term of the respective leases when collectibility is reasonably assured. Escalation clauses tied to the Consumer Price Index or other inflation-based indices, and other incentives present in lease agreements with our

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**AMERICAN TOWER CORPORATION AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

*Business*—American Tower Corporation is, through its various subsidiaries (collectively, “ATC” or the “Company”), a global independent owner, operator and developer of communications real estate. The Company’s primary business is the leasing of space on multi-tenant communications sites to wireless service providers, radio and television broadcast companies, wireless data and data providers, government agencies and municipalities and tenants in a number of other industries. The Company also manages rooftop and tower sites for property owners, operates in-building and outdoor distributed antenna system (“DAS”) networks, holds property interests under third-party communications sites and provides network development services that primarily support its rental and management operations.

ATC is a holding company that conducts its operations through its directly and indirectly owned subsidiaries and its joint ventures. ATC’s principal domestic operating subsidiaries are American Towers LLC and SpectraSite Communications, LLC. ATC conducts its international operations primarily through its subsidiary, American Tower International, Inc., which in turn conducts operations through its various international holding and operating subsidiaries and joint ventures.

The Company operates as a real estate investment trust for U.S. federal income tax purposes (“REIT”) and, therefore, is generally not subject to federal income taxes on its income and gains that it distributes to its stockholders, including the income derived from leasing space on its towers. However, even as a REIT, the Company remains obligated to pay income taxes on earnings from its taxable REIT subsidiaries (“TRSs”). In addition, the Company’s international assets and operations, including those designated as direct or indirect qualified REIT subsidiaries or other disregarded entities of a REIT (collectively, “QRSs”), continue to be subject to taxation in the foreign jurisdictions where those assets are held or those operations are conducted.

The use of TRSs enables the Company to continue to engage in certain businesses while complying with REIT qualification requirements. The Company may, from time to time, change the election of previously designated TRSs that hold certain of its operations to be treated as QRSs, and may reorganize and transfer certain assets or operations from its TRSs to other subsidiaries, including QRSs. For all periods subsequent to the conversion from a TRS to a QRS, the Company includes the income from the QRS as part of its REIT taxable income for the purpose of computing its REIT distribution requirements. During the year ended December 31, 2014, the Company restructured certain of its German subsidiaries and certain of its domestic TRSs, which included a portion of its network development services segment and indoor DAS networks business, to be treated as QRSs. As a result, as of December 31, 2014, the Company’s QRSs include its domestic tower leasing business, most of its operations in Costa Rica, Germany and Mexico and a portion of its network development services segment and indoor DAS networks business.

*Principles of Consolidation and Basis of Presentation*—The accompanying consolidated financial statements include the accounts of the Company and those entities in which it has a controlling interest. Investments in entities that the Company does not control are accounted for using the equity or cost method, depending upon the Company’s ability to exercise significant influence over operating and financial policies. All intercompany accounts and transactions have been eliminated.

*Significant Accounting Policies and Use of Estimates*—The preparation of financial statements in conformity with accounting principles generally accepted in the United States (“GAAP”) requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results may differ from those estimates, and such differences could be material to the accompanying consolidated financial statements. The significant estimates in the accompanying consolidated

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**AMERICAN TOWER CORPORATION AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

effect at the end of the applicable fiscal reporting period and all foreign currency revenues and expenses are translated at the average monthly exchange rates. Translation adjustments are reflected in equity as a component of Accumulated other comprehensive income (loss) (“AOCI”) in the consolidated balance sheets and included as a component of comprehensive income.

Transactional gains and losses on foreign currency transactions are reflected in Other expense in the consolidated statements of operations. However, the effect from fluctuations in foreign currency exchange rates on intercompany notes whose payment is not planned or anticipated in the foreseeable future is reflected in AOCI in the consolidated balance sheets and included as a component of comprehensive income. During the year ended December 31, 2014, the Company recorded unrealized foreign currency losses of \$468.6 million, of which \$419.3 million was recorded in AOCI and \$49.3 million was recorded in Other expense.

*Cash and Cash Equivalents*—Cash and cash equivalents include cash on hand, demand deposits and short-term investments, including money market funds, with remaining maturities of three months or less when acquired, whose cost approximates fair value.

*Restricted Cash*—The Company classifies as restricted cash all cash pledged as collateral to secure obligations and all cash whose use is otherwise limited by contractual provisions, including cash on deposit in reserve accounts relating to the (i) Secured Tower Revenue Securities, Series 2013-1A and Series 2013-2A issued in the Company’s 2013 securitization transaction (the “Securities”), (ii) Secured Cellular Site Revenue Notes, Series 2010-1 Class C, Series 2010-2 Class C and Series 2010-2 Class F (collectively, the “Unison Notes”), assumed by the Company in connection with an acquisition and (iii) six series, consisting of eleven separate classes, of Secured Tower Revenue Notes, of which the Company repaid one series, consisting of two classes, in August 2014 (the remaining notes, the “GTP Notes”) assumed by the Company in connection with an acquisition.

*Short-Term Investments*—Short-term investments consists of highly-liquid investments with original maturities in excess of three months.

*Property and Equipment*—Property and equipment is recorded at cost or, in the case of acquired properties, at estimated fair value on the date acquired. Cost for self-constructed towers includes direct materials and labor, capitalized interest and certain indirect costs associated with construction of the tower, such as transportation costs, employee benefits and payroll taxes. The Company begins the capitalization of costs during the pre-construction period, which is the period during which costs are incurred to evaluate the site, and continues to capitalize costs until the tower is substantially completed and ready for occupancy by a tenant. Labor costs capitalized for the years ended December 31, 2014, 2013 and 2012 were \$48.5 million, \$44.1 million and \$41.6 million, respectively. Interest costs capitalized for the years ended December 31, 2014, 2013 and 2012 were \$2.8 million, \$1.8 million and \$1.9 million, respectively.

Expenditures for repairs and maintenance are expensed as incurred. Augmentation and improvements that extend an asset’s useful life or enhance capacity are capitalized.

Depreciation is recorded using the straight-line method over the assets’ estimated useful lives. Towers and related assets on leased land are depreciated over the shorter of the estimated useful life of the asset or the term of the corresponding ground lease, taking into consideration lease renewal options and residual value.

Towers or assets acquired through capital leases are reflected in Property and equipment, net at the present value of future minimum lease payments or the fair value of the leased asset at the inception of the lease. Property and equipment, network location intangibles and assets held under capital leases are amortized over the shorter of the applicable lease term or the estimated useful life of the respective assets for periods generally not exceeding twenty years.

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**AMERICAN TOWER CORPORATION AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**3. PROPERTY AND EQUIPMENT**

Property and equipment (including assets held under capital leases) consists of the following as of December 31, (in thousands):

	Estimated Useful Lives (years) (1)	2014	2013 (2)
Towers	Up to 20	\$ 8,300,387	\$ 7,933,917
Equipment	2 - 15	995,667	762,738
Buildings and improvements	3 - 32	618,889	607,540
Land and improvements (3)	Up to 20	1,566,096	1,369,969
Construction-in-progress		214,760	170,292
Total		11,695,799	10,844,456
Less accumulated depreciation and amortization		(4,068,982)	(3,666,728)
Property and equipment, net		<u>\$ 7,626,817</u>	<u>\$ 7,177,728</u>

- (1) Assets on leased land are depreciated over the shorter of the estimated useful life of the asset or the term of the corresponding ground lease taking into consideration lease renewal options and residual value.
- (2) December 31, 2013 balances have been revised to reflect purchase accounting measurement period adjustments.
- (3) Estimated useful lives apply to land improvements only.

Depreciation expense for the years ended December 31, 2014, 2013 and 2012 was \$551.8 million, \$483.6 million and \$411.9 million, respectively. Property and equipment, net includes approximately \$1,111.6 million and \$839.0 million of capital leases, which are primarily classified as either towers or land and improvements as of December 31, 2014 and 2013, respectively.

**4. GOODWILL AND OTHER INTANGIBLE ASSETS**

The changes in the carrying value of goodwill for the Company's business segments are as follows (in thousands):

	Rental and Management		Network Development Services	Total
	Domestic	International		
Balance as of January 1, 2013	\$2,320,571	\$ 520,072	\$ 2,000	\$2,842,643
Additions	973,328	91,249	—	1,064,577
Effect of foreign currency translation	—	(52,418)	—	(52,418)
Balance as of December 31, 2013 (1)	<u>\$3,293,899</u>	<u>\$ 558,903</u>	<u>\$ 2,000</u>	<u>\$3,854,802</u>
Additions	48,247	168,966	—	217,213
Effect of foreign currency translation	—	(51,280)	—	(51,280)
Other (2)	—	(3,641)	(12)	(3,653)
Balance as of December 31, 2014	<u>\$3,342,146</u>	<u>\$ 672,948</u>	<u>\$ 1,988</u>	<u>\$4,017,082</u>

- (1) Balances have been revised to reflect purchase accounting measurement period adjustments.
- (2) Other represents the goodwill associated with the Company's operations in Panama and the Company's third-party structural analysis business. Both businesses were sold during the year ended December 31, 2014 (see note 12).



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**AMERICAN TOWER CORPORATION AND SUBSIDIARIES**  
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Future minimum payments under capital leases in effect at December 31, 2014 are as follows (in thousands):

Year Ending December 31,	
2015	\$ 15,589
2016	14,049
2017	12,905
2018	12,456
2019	10,760
Thereafter	173,313
Total minimum lease payments	239,072
Less amounts representing interest	(143,690)
Present value of capital lease obligations	<u>\$ 95,382</u>

*Tenant Leases*—The Company's lease agreements with its tenants vary depending upon the region and the industry of the tenant, and typically have initial terms of at least ten years with multiple renewal terms at the option of the tenant.

Future minimum rental receipts expected from tenants under non-cancellable operating lease agreements in effect at December 31, 2014 are as follows (in thousands):

Year Ending December 31,	
2015	\$ 3,438,474
2016	3,358,098
2017	3,304,255
2018	3,168,551
2019	2,916,750
Thereafter	10,495,554
Total	<u>\$26,681,682</u>

*AT&T Transaction*—The Company has an agreement with SBC Communications Inc., a predecessor entity to AT&T Inc. ("AT&T"), that currently provides for the lease or sublease of approximately 2,400 towers from AT&T with the lease commencing between December 2000 and August 2004. Substantially all of the towers are part of the Securitization. The average term of the lease or sublease for all sites at the inception of the agreement was approximately 27 years, assuming renewals or extensions of the underlying ground leases for the sites. The Company has the option to purchase the sites subject to the applicable lease or sublease upon its expiration. Each tower is assigned to an annual tranche, ranging from 2013 to 2032, which represents the outside expiration date for the sublease rights to that tower. The purchase price for each site is a fixed amount stated in the sublease for that site plus the fair market value of certain alterations made to the related tower by AT&T. During the year ended December 31, 2014, the Company purchased 27 of the subleased towers upon expiration of the applicable agreement for an aggregate purchase price of \$8.8 million. The aggregate purchase option price for the remaining towers leased and subleased is approximately \$644.9 million, and will accrete at a rate of 10% per annum through the applicable expiration of the lease or sublease of a site. As of December 31, 2014, the Company has purchased an aggregate of 31 of the subleased towers upon expiration of the applicable agreement. For all such sites purchased by the Company prior to June 30, 2020, AT&T will continue to lease the reserved space at the then-current monthly fee which shall escalate in accordance with the standard master lease

# Telecommunications Assets Descriptions

Pt. 32

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**PART 32—UNIFORM SYSTEM OF  
ACCOUNTS FOR TELECOMMUNI-  
CATIONS COMPANIES**

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AUTHORITY: 47 U.S.C. 154(i), 154(j) and 220 as amended, unless otherwise noted.

SOURCE: 51 FR 43499, Dec. 2, 1986, unless otherwise noted.

## Subpart A—Preface

## § 32.1 Background.

The revised Uniform System of Accounts (USOA) is a historical financial accounting system which reports the results of operational and financial events in a manner which enables both management and regulators to assess these results within a specified accounting period. The USOA also provides the financial community and others with financial performance results. In order for an accounting system to fulfill these purposes, it must exhibit consistency and stability in financial reporting (including the results published for regulatory purposes). Accordingly, the USOA has been designed to reflect stable, recurring financial data based to the extent regulatory considerations permit upon the consistency of the well established body of accounting theories and principles commonly referred to as generally accepted accounting principles.

## § 32.2 Basis of the accounts.

(a) The financial accounts of a company are used to record, in monetary terms, the basic transactions which occur. Certain natural groupings of these transactions are called (in different contexts) transaction cycles, business processes, functions or activities. The concept, however, is the same in each case; i.e., the natural groupings represent what happens within the company on a consistent and continuing basis. This repetitive nature of the natural groupings, over long periods of time, lends an element of stability to the financial account structure.

(b) Within the telecommunications industry companies, certain recurring functions (natural groupings) do take place in the course of providing products and services to customers. These accounts reflect, to the extent feasible, those functions. For example, the pri-

mary bases of the accounts containing the investment in telecommunications plant are the functions *performed by* the assets. In addition, because of the anticipated effects of future innovations, the telecommunications plant accounts are intended to permit technological distinctions. Similarly, the primary bases of plant operations, customer operations and corporate operations expense accounts are the functions *performed by* individuals. The revenue accounts, on the other hand, reflect a market perspective of natural groupings based primarily upon the products and services *purchased by* customers.

(c) In the course of developing the bases for this account structure, several other alternatives were explored. It was, for example, determined that, because of the variety and continual changing of various cost allocation mechanisms, the financial accounts of a company should not reflect an *a priori* allocation of revenues, investments or expenses to products or services, jurisdictions or organizational structures. (Note also § 32.14 (c) and (d) of subpart B.) It was also determined that costs (in the case of assets) should not be recorded based solely upon physical attributes such as location, description or size.

(d) Care has been taken in this account structure to avoid confusing a function with an organizational responsibility, particularly as it relates to the expense accounts. Whereas in the past, specific organizations may have performed specific functions, the future environment with its increasing mechanization and other changes will result in entirely new or restructured organizations. Thus, any relationships drawn between organizations and accounts would become increasingly meaningless with the passage of time.

(e) These accounts, then, are intended to reflect a functional and technological view of the telecommunications industry. This view will provide a stable and consistent foundation for the recording of financial data.

(f) The financial data contained in the accounts, together with the detailed information contained in the underlying financial and other subsidiary records required by this Commission,

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## § 32.2000

**§ 32.1438 Deferred maintenance and retirements.**

(a) This account shall include such items as:

(1) The unprovided-for loss in service value of telecommunications plant for extraordinary nonrecurring retirement not considered in depreciation and the cost of extensive replacements of plant normally chargeable to the current period Plant Specific Operations Expense accounts. These charges shall be included in this account only upon direction or approval from this Commission. However, the company's application to this Commission for such approval shall give full particulars concerning the property retired, the extensive replacements, the amount chargeable to operating expenses and the period over which in its judgment the amount of such charges should be distributed.

(2) Unaudited amounts and other debit balances in suspense that cannot be cleared and disposed of until additional information is received; the amount, pending determination of loss, of funds on deposit with banks which have failed; revenue, expense, and income items held in suspense; amounts paid for options pending final disposition.

(3) Cost of preliminary surveys, plans, investigation, etc., made for construction projects under contemplation. If the projects are carried out, the preliminary costs shall be included in the cost of the plant constructed. If the projects are abandoned, the preliminary costs shall be charged to Account 7300, Nonoperating income and expense.

(4) Cost of evaluations, inventories, and appraisals taken in connection with the acquisition or sale of property. If the property is subsequently acquired, the preliminary costs shall be accounted for as a part of the cost of acquisition, or if it is sold, such costs shall be deducted from the sale price in accounting for the property sold. If purchases or sales are abandoned, the preliminary costs included herein (including options paid, if any) shall be charged to Account 7300.

(b) Charges provided for in paragraph (a) of this section shall be included in this account only upon direction or approval from this Commission. However, the company's application to this Com-

mission for such approval shall give full particulars concerning the property retired, the extensive replacements, the amount chargeable to operating expenses and the period over which in its judgment the amount of such charges should be distributed.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5683, Feb. 6, 2002]

**§ 32.1500 Other jurisdictional assets—net.**

This account shall include the cumulative impact on assets of jurisdictional ratemaking practices which vary from those of this Commission. All entries recorded in this account shall be recorded net of any applicable income tax effects and shall be supported by subsidiary records where necessary as provided for in § 32.13(e) of subpart B.

**§ 32.2000 Instructions for telecommunications plant accounts.**

(a) *Purpose of telecommunications plant accounts.* (1) The telecommunications plant accounts (2001 to 2007 inclusive) are designed to show the investment in the company's tangible and intangible telecommunications plant which ordinarily has a service life of more than one year, including such plant whether used by the company or others in providing telecommunications service.

(2) The telecommunications plant accounts shall not include the cost or other value of telecommunications plant contributed to the company. Contributions in the form of money or its equivalent toward the construction of telecommunications plant shall be credited to the accounts charged with the cost of such construction. Amounts of non-recurring reimbursements based on the cost of plant or equipment furnished in rendering service to a customer shall be credited to the accounts charged with the cost of the plant or equipment. Amounts received for construction which are ultimately to be repaid wholly or in part, shall be credited to Account 4300, Other long-term liabilities and deferred credits; when final determination has been made as to the amount to be returned, any unrefunded amounts shall be credited to the accounts charged with the cost of such construction. Amounts received

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accounting period in which the asset is acquired. A reasonable estimate of the useful life may be based on the upper or lower limits even though a fixed existence is not determinable. However, the period of amortization shall not exceed forty years.

(2) In the event any estimated useful life becomes no longer applicable, a revised estimated useful life shall be determined in accordance with paragraph (h)(1) of this section.

(3) Amortization charges shall be made monthly to the appropriate am-

ortization expense accounts and corresponding credits shall be made to accounts 2005, 2682, 2690, and 3410, as appropriate. Monthly charges shall be computed by the application of one-twelfth to the annual amortization amount.

(4) The company shall keep such records as will allow the determination of the useful life of the asset.

(i) [Reserved]

(j) Plant Accounts to be Maintained by Class A and Class B telephone companies as indicated:

Account title	Class A account	Class B account
<b>Regulated plant</b>		
Property, plant and equipment:		
Telecommunications plant in service .....	<sup>1</sup> 2001	<sup>1</sup> 2001
Property held for future telecommunications use .....	2002	2002
Telecommunications plant under construction-short term .....	2003	2003
Telecommunications plant adjustment .....	2005	2005
Nonoperating plant .....	2006	2006
Goodwill .....	2007	2007
Telecommunications plant in service (TPIS)		
TPIS—General support assets:		
Land and support assets .....		2110
Land .....	2111	
Motor vehicles .....	2112	
Aircraft .....	2113	
Tools and other work equipment .....	2114	
Buildings .....	2121	
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Office equipment .....	2123	
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TPIS—Central Office assets:		
Central Office—switching .....		2210
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Radio systems .....	2231	
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TPIS—Information origination/termination assets:		
Information origination termination .....		2310
Station apparatus .....	2311	
Customer premises wiring .....	2321	
Large private branch exchanges .....	2341	
Public telephone terminal equipment .....	2351	
Other terminal equipment .....	2362	
TPIS—Cable and wire facilities assets:		
Cable and wire facilities .....		2410
Poles .....	2411	
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Buried cable .....	2423	
Submarine and deep sea cable .....	2424	
Intrabuilding network cable .....	2426	
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Conduit systems .....	2441	
TPIS—Amortizable assets:		
Amortizable tangible assets .....		2680
Capital leases .....	2681	
Leasehold improvements .....	2682	
Intangibles .....	2690	2690

<sup>1</sup> Balance sheet summary account only.



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shall be included in Account 7500, Interest and related items.

(g) When land is purchased for immediate use in a construction project, its cost shall be included in Account 2003, Telecommunications plant under construction, until such time as the project involved is completed and ready for service.

(h) The original cost of leaseholds, easements, rights of way, and similar rights in land having a term of more than one year and not includable in Account 2111 shall be included in the accounts for outside plant or externally mounted central office equipment in connection with which the rights were acquired.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5686, Feb. 6, 2002]

**§ 32.2112 Motor vehicles.**

This account shall include the original cost of motor vehicles of the type which are designed and routinely licensed to operate on public streets and highways.

**§ 32.2113 Aircraft.**

This account shall include the original cost of aircraft and any associated equipment and furnishings installed as an integral part of the aircraft.

**§ 32.2114 Tools and other work equipment.**

This account shall include the original cost of special purpose vehicles and the original cost of tools and equipment used to maintain special purpose vehicles and items included in Accounts 2112 and 2113. This account shall also include the original cost of power-operated equipment, general purpose tools, and other items of work equipment.

[64 FR 50007, Sept. 15, 1999]

**§ 32.2121 Buildings.**

(a) This account shall include the original cost of buildings, and the cost of all permanent fixtures, machinery, appurtenances and appliances installed as a part thereof. It shall include costs incident to the construction or purchase of a building and to securing possession and title.

(b) When land, together with the buildings thereon, is acquired, the original cost shall be fairly apportioned between the land and buildings, and the amount applicable to the buildings shall be included in this account. The amount applicable to the land shall be included in Account 2111, Land.

(c) This account shall not include the cost of any telephone equipment or wiring apparatus for generating or controlling electricity for operating the telephone system.

**§ 32.2122 Furniture.**

This account shall include the original cost of furniture in offices, store-rooms, shops, and all other quarters. This account shall also include the cost of objects which possess aesthetic value, are of original or limited edition, and do not have a determinable useful life. The cost of any furniture attached to and constituting a part of a building shall be charged to account 2121, Buildings.

**§ 32.2123 Office equipment.**

This account shall include the original cost of office equipment in offices, shops and all other quarters. The cost of any equipment attached to and constituting a part of a building shall be charged to Account 2121, Buildings.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5686, Feb. 6, 2002]

**§ 32.2124 General purpose computers.**

(a) This account shall include the original cost of computers and peripheral devices which are designed to perform general administrative information processing activities.

(b) Administrative information processing includes but is not limited to activities such as the preparation of financial, statistical, or other business analytical reports; preparation of payroll, customer bills, and cash management reports, and other records and reports not specifically designed for testing, diagnosis, maintenance or control of the telecommunications network facilities.

(c) [Reserved]

(d) This account does not include the cost of computers and their associated peripheral devices associated with

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switching, network signaling, network operations, or other specific telecommunications plant. Such computers and peripherals shall be classified to the appropriate switching, network signaling, network expense, or other plant account.

[51 FR 43499, Dec. 2, 1986, as amended at 64 FR 50007, Sept. 15, 1999]

**§ 32.2210 Central office—switching.**

This account shall be used by Class B companies to record the original cost of switching assets of the type and character required of Class A companies in Accounts 2211 through 2212.

[67 FR 5686, Feb. 6, 2002]

**§ 32.2211 Non-digital switching.**

(a) This account shall include:

(1) Original cost of stored program control analog circuit-switching and associated equipment.

(2) Cost of remote analog electronic circuit switches.

(3) Original cost of non-electronic circuit-switching equipment such as Step-by-Step, Crossbar, and Other Electro-Mechanical Switching.

(b) Switching plant excludes switchboards which perform an operator assistance function and equipment which is an integral part thereof. It does not exclude equipment used solely for the recording of calling telephone numbers in connection with customer dialed charged traffic, dial tandem switchboards and special service switchboards used in conjunction with private line service; such equipment shall be classified to the particular switch that it serves.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5686, Feb. 6, 2002]

**§ 32.2212 Digital electronic switching.**

(a) This account shall include the original cost of stored program control digital switches and their associated equipment. Included in this account are digital switches which utilize either dedicated or non-dedicated circuits. This account shall also include the cost of remote digital electronic switches. The investment in digital electronic switching equipment shall be maintained in the following sub-

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accounts: 2212.1 Circuit and 2212.2 Packet.

(b) This subaccount 2212.1 Circuit shall include the original cost of digital electronic switching equipment used to provide circuit switching. Circuit switching is a method of routing traffic through a switching center, from local users or from other switching centers, whereby a connection is established between the calling and called stations until the connection is released by the called or calling station.

(c) This subaccount 2212.2 Packet shall include the original cost of digital electronic switching equipment used to provide packet switching. Packet switching is the process of routing and transferring information by means of addressed packets so that a channel is occupied during the transmission of the packet only, and upon completion of the transmission the channel is made available for the transfer of other traffic.

(d) Digital electronic switching equipment used to provide both circuit and packet switching shall be recorded in the subaccounts 2212.1 Circuit and 2212.2 Packet based upon its predominant use.

(e) Switching plant excludes switchboards which perform an operator assistance function and equipment which is an integral part thereof. It does not exclude equipment used solely for the recording of calling telephone numbers in connection with customer dialed charged traffic, dial tandem switchboards and special service switchboards used in conjunction with private line service; such equipment shall be classified to the particular switch that it serves.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5686, Feb. 6, 2002]

**§ 32.2220 Operator systems.**

(a) This account shall include the original cost of those items of equipment used to assist subscribers in utilizing the network and equipment used in the provision of directory assistance, call intercept, and other operator assisted call completion activities.

(b) This account does not include equipment used solely for the recording

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of calling telephone numbers in connection with customer dialed charged traffic, dial tandem switchboards and special service switchboards used in conjunction with private line service; such equipment shall be classified to the particular switch that it serves.

[51 FR 43499, Dec. 2, 1986, as amended at 59 FR 46930, Sept. 13, 1994]

**§ 32.2230 Central office—transmission.**

This account shall be used by Class B companies to record the original cost of radio systems and circuit equipment of the type and character required of Class A companies in Accounts 2231 and 2232.

**§ 32.2231 Radio systems.**

(a) This account shall include the original cost of ownership of radio transmitters and receivers. This account shall include the original cost of ownership interest in satellites (including land-side spares), other spare parts, material and supplies. It shall include launch insurance and other satellite launch costs. This account shall also include the original cost of earth stations and spare parts, material or supplies therefor.

(b) This account shall also include the original cost of radio equipment used to provide radio communication channels. Radio equipment is that equipment which is used for the generation, amplification, propagation, reception, modulation, and demodulation of radio waves in free space over which communication channels can be provided. This account shall also include the associated carrier and auxiliary equipment and patch bay equipment which is an integral part of the radio equipment. Such equipment may be located in central office building, terminal room, or repeater stations or may be mounted on towers, masts, or other supports.

[67 FR 5686, Feb. 6, 2002]

**§ 32.2232 Circuit equipment.**

(a) This account shall include the original cost of equipment which is used to reduce the number of physical pairs otherwise required to serve a given number of subscribers by utilizing carrier systems, concentration

stages or combinations of both. It shall include equipment that provides for simultaneous use of a number of interoffice channels on a single transmission path. This account shall also include equipment which is used for the amplification, modulation, regeneration, circuit patching, balancing or control of signals transmitted over interoffice communications transmission channels. This account shall include equipment which utilizes the message path to carry signaling information or which utilizes separate channels between switching offices to transmit signaling information independent of the subscribers' communication paths or transmission channels. This account shall also include the original cost of associated material used in the construction of such plant. Circuit equipment may be located in central offices, in manholes, on poles, in cabinets or huts, or at other company locations. The investment in circuit equipment shall be maintained in the following subaccounts: 2232.1 Electronic and 2232.2 Optical.

(b) This subaccount 2232.1 Electronic shall include the original cost of electronic circuit equipment.

(c) This subaccount 2232.2 Optical shall include the original cost of optical circuit equipment.

(d) Circuit equipment that converts electronic signals to optical signals or optical signals to electronic signals shall be categorized as electronic.

(e) This account excludes carrier and auxiliary equipment and patch bays which are includable in Account 2231.2, Other Radio Facilities. This account also excludes such equipment which is an integral component of a major unit which is classifiable to other accounts.

(f) Subsidiary record categories shall be maintained in order that the company may separately report the amounts contained herein that relate to digital and analog. Such subsidiary record categories shall be reported as required by part 43 of this Commission's Rules and Regulations.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5686, Feb. 6, 2002]

**§ 32.2310****47 CFR Ch. I (10–1–09 Edition)****§ 32.2310 Information origination/termination.**

This account shall be used by Class B companies to record the original cost of information origination/termination equipment of the type and character required of Class A companies in Accounts 2311 through 2362.

**§ 32.2311 Station apparatus.**

(a) This account shall include the original cost of station apparatus, including teletypewriter equipment, telephone and miscellaneous equipment, small private branch exchanges and radio equipment (excluding mobile), installed for customer's use. Items included in this account shall remain herein until finally disposed of or until used in such manner as to warrant inclusion in other accounts.

(b) Each company shall prepare a list of station apparatus which shall be used as its list of disposition units for this account, the cost of which when finally disposed of shall be credited to this account and charged to Account 3100, Accumulated Depreciation.

(c) The cost of cross-connection boxes, distributing frames or other distribution points which are installed to terminate intrabuilding network cable shall be charged to Account 2426, Intrabuilding Network Cable.

(d) Operator head sets and transmitters in central offices and at private branch exchanges, and test sets such as those used by wire chiefs, outside plant technicians, and others, shall be included in Account 2114, Tools and other work equipment, Account 2220, Operator systems, or Account 2341, Large Private Branch Exchanges, as appropriate.

(e) Station apparatus for company official use shall be included in Account 2123, Office Equipment.

(f) Periodic asset verification, as prescribed by generally accepted accounting principles, shall be taken of all station apparatus in stock that are included in this account. The number of such station apparatus items as determined by this verification together with the number of all other station apparatus items included in this account, shall be compared with the corresponding number of station apparatus items as shown by the respective

control records. The original cost of any unreconciled differences thereby disclosed shall be adjusted through Account 3100, Accumulated Depreciation. Appropriate verifications shall be made at suitable intervals and necessary adjustments between this account and Account 3100 shall be made for all station apparatus included in this account.

(g) Items of station apparatus in stock for which no further use in the ordinary conduct of the business is contemplated, but which as a precautionary measure are held for possible future contingencies instead of being discarded shall be excluded from this account and included in Account 1220, Inventories.

(h) Embedded CPE is that equipment or inventory which was tariffed or otherwise subject to the jurisdictional separations process as of January 1, 1983.

[51 FR 43499, Dec. 2, 1986, as amended at 52 FR 6561, Mar. 4, 1987; 52 FR 39535, Oct. 22, 1987; 59 FR 46930, Sept. 13, 1994; 64 FR 50007, Sept. 15, 1999; 67 FR 5687, Feb. 6, 2002]

**§ 32.2321 Customer premises wiring.**

(a) This account shall include all amounts transferred from the former Account 232, Station Connections, inside wiring subclass.

(b) Embedded Customer Premises Wiring is that investment in customer premises wiring equipment or inventory which was capitalized prior to October 1, 1984.

[51 FR 43499, Dec. 2, 1986, as amended at 52 FR 6561, Mar. 4, 1987]

**§ 32.2341 Large private branch exchanges.**

(a) This account shall include the original cost, including the cost of installation, of multiple manual private branch exchanges and of dial system private branch exchanges of types designed to accommodate 100 or more lines or which can normally be expanded to 100 or more lines, installed for customers' use. This account shall also include the original cost of other large installations of station equipment: (1) Which do not constitute stations, (2) which require special or individualized treatment because of their complexity, special design, or other distinctive characteristics, and (3) for

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which individual or other specialized cost records are appropriate. (Note also Account 2311, Station Apparatus.)

(b) The cost of intrabuilding network cables including their associated cross-connection boxes, terminals, distributing frames, etc., is chargeable to Account 2426, Intrabuilding Network Cable.

(c) The cost of outside plant, whether or not on private property, used with intrabuilding, network cable shall be charged to the appropriate outside plant accounts.

(d)-(e) [Reserved]

(f) Private branch exchanges for company official use shall be included in Account 2123, Office Equipment.

(g) Embedded CPE is that equipment or inventory which is tariffed or otherwise subject to the jurisdictional separations process as of January 1, 1983. Inventories of large private branch exchanges equipment are included in Account 1220, Inventories.

[51 FR 43499, Dec. 2, 1986, as amended at 52 FR 6562, Mar. 4, 1987; 52 FR 39535, Oct. 22, 1987; 59 FR 46930, Sept. 13, 1994]

**§ 32.2351 Public telephone terminal equipment.**

(a) This account shall include the original cost of coinless, coin-operated (including public and semi-public), credit card and pay telephone installed for use by the public.

(b) This account shall also include the original cost of operating spares that are required to provide a continuity of service for public telephones. The operating spares shall not exceed six months supply in terms of turnover and be available to installers from locations in reasonable proximity to the location of the installed equipment.

(c) The original cost of installing public telephone equipment shall not include the labor and minor materials costs of installing the public telephone equipment or premises wiring. These costs as well as the cost of replacing a public telephone shall be charged to Account 6351 Public Telephone Terminal Equipment Expense. The labor and minor materials costs of removal of public telephones will also be charged to Account 6351.

[51 FR 43499, Dec. 2, 1986, as amended at 52 FR 29019, Aug. 5, 1987]

**§ 32.2362 Other terminal equipment.**

(a) This account shall include the original cost of other Non-CPE terminal equipment not specifically provided for elsewhere and items such as specialized communications equipment provided to meet the needs of the disabled, over-voltage protection equipment, multiplexing equipment to deliver multiple channels to customers, etc.

(b) Each company shall prepare a list of other terminal equipment which shall be used as its list of retirement units for this account, the cost of which when finally disposed of shall be credited to this account and charged to Account 3100, Accumulated Depreciation.

**§ 32.2410 Cable and wire facilities.**

This account shall be used by Class B companies to record the original cost of cable and wire facilities of the type and character required of Class A companies in Accounts 2411 through 2441.

**§ 32.2411 Poles.**

This account shall include the original cost of poles, crossarms, guys and other material used in the construction of pole lines and shall include the cost of towers when not associated with buildings. This account shall also include the cost of clearing pole line routes and of tree trimming but shall exclude the cost of maintaining previously cleared routes.

**§ 32.2421 Aerial cable.**

(a) This account shall include the original cost of aerial cable and of drop and block wires served by such cable or aerial wire as well as the cost of other material used in construction of such plant. Subsidiary record categories, as defined below, are to be maintained for nonmetallic aerial cable and metallic aerial cable.

(1) *Nonmetallic cable.* This subsidiary record category shall include the original cost of optical fiber cable and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(2) *Metallic cable.* This subsidiary record category shall include the original cost of single or paired conductor



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cable, wire and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(b) The cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

**§ 32.2422 Underground cable.**

(a) This account shall include the original cost of underground cable installed in conduit and of other material used in the construction of such plant. Subsidiary record categories, as defined below, are to be maintained for nonmetallic underground cable and metallic underground cable.

(1) *Nonmetallic cable.* This subsidiary record category shall include the original cost of optical fiber cable and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(2) *Metallic cable.* This subsidiary record category shall include the original cost of single or paired conductor cable, wire and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(b) The cost of pumping water out of manholes and of cleaning manholes and ducts in connection with construction work and the cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

(c) The cost of drop and block wires served by underground cable shall be included in Account 2423, Buried Cable.

(d) The cost of cables leading from the main distributing frame or equivalent to central office equipment shall be included in the appropriate switching, transmission or other operations asset account.

**§ 32.2423 Buried cable.**

(a) This account shall include the original cost of buried cable as well as the cost of other material used in the construction of such plant. This account shall also include the cost of trenching for and burying cable run in conduit not classifiable to Account 2441, Conduit Systems. Subsidiary

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record categories, as defined below, are to be maintained for nonmetallic buried cable and metallic buried cable.

(1) *Nonmetallic cable.* This subsidiary record category shall include the original cost of optical fiber cable and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(2) *Metallic cable.* This subsidiary record category shall include the original cost of single or paired conductor cable, wire and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(b) The cost of pumping water out of manholes and of cleaning manholes and ducts in connection with construction work and the cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

**§ 32.2424 Submarine & deep sea cable.**

(a) This account shall include the original cost of submarine cable and deep sea cable and other material used in the construction of such plant. Subsidiary record categories, as defined below, are to be maintained for nonmetallic submarine and deep sea cable and metallic submarine and deep sea cable.

(1) *Nonmetallic cable.* This subsidiary record category shall include the original cost of optical fiber cable and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(2) *Metallic cable.* This subsidiary record category shall include the original cost of single or paired conductor cable, wire and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(b) The cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5687, Feb. 6, 2002]



**Federal Communications Commission****§ 32.2681****§ 32.2426 Intrabuilding network cable.**

(a) This account shall include the original cost of cables and wires located on the company's side of the demarcation point or standard network interface inside subscribers' buildings or between buildings on one customer's same premises. Intrabuilding network cables are used to distribute network access facilities to equipment rooms, cross-connection or other distribution points at which connection is made with customer premises wiring. Subsidiary record categories, as defined below, are to be maintained for non-metallic intrabuilding network cable and metallic intrabuilding network cable.

(1) *Nonmetallic cable.* This subsidiary record category shall include the original cost of optical fiber cable and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(2) *Metallic cable.* This subsidiary record category shall include the original cost of single or paired conductor cable, wire and other associated material used in constructing a physical path for the transmission of telecommunications signals.

(b) The cost of pumping water out of manholes and of cleaning manholes and ducts in connection with construction work and the cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

(c) Intrabuilding network cable does not include the cost of cables or wires which are classifiable as network terminating wire, nor the cables or wires from the demarcation point or standard network interface to subscribers' stations.

**§ 32.2431 Aerial wire.**

(a) This account shall include the original cost of bare line wire and other material used in the construction of such plant.

(b) The cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

(c) The cost of drop and block wires served by aerial wire shall be included in Account 2421, Aerial Cable.

**§ 32.2441 Conduit systems.**

(a) This account shall include the original cost of conduit, whether underground, in tunnels or on bridges, which is reusable in place. It shall also include the cost of opening trenches and of any repaving necessary in the construction of conduit plant.

(b) The cost of pumping water out of manholes and of cleaning manholes and ducts in connection with construction work and the cost of permits and privileges for the construction of cable and wire facilities shall be included in the account chargeable with such construction.

(c) The cost of protective covering for buried cable shall be charged to Account 2423, Buried Cable, as appropriate, unless such protective covering is reusable in place. The amounts thus charged shall be included in the non-metallic buried cable or metallic buried cable subsidiary record category, as appropriate.

(d) The cost of pipes or other protective covering for underground drop and block wires shall be included in Account 2421, Aerial Cable, or Account 2423, Buried Cable, as appropriate. The amounts thus charged shall be included in the nonmetallic or metallic subsidiary record category, as appropriate.

**§ 32.2680 Amortizable tangible assets.**

This account shall be used by Class B carriers to record amounts for property acquired under capital leases and the original cost of leasehold improvements of the type of character required of Class A companies in Accounts 2681 and 2682.

**§ 32.2681 Capital leases.**

(a) This account shall include all property acquired under a capital lease. A lease qualifies as a capital lease when one or more of the following criteria is met:

(1) By the end of the lease term, ownership of the leased property is transferred to the lessee.

(2) The lease contains a bargain purchase option.

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(3) The lease term is substantially (75% or more) equal to the estimated useful life of the leased property. However, if the beginning of the lease term falls within the last 25% of the total estimated economic life of the leased property, including earlier years of use, this criterion shall not be used for purposes of classifying the lease.

(4) At the inception of the lease, the present value of the minimum lease payments, excluding that portion of the payments representing executory costs to be paid by the lessor, including any profit thereon, equals or exceeds 90% or more of the fair value of the leased property. However, if the beginning of the lease term falls within the last 25% of the total estimated economic life of the leased property, including earlier years of use, this criterion shall not be used for purposes of classifying the lease.

(b) All other leases are operating leases.

(c) The amounts recorded in this account at the inception of a capital lease shall be equal to the original cost, if known, or to the present value not to exceed fair value, at the beginning of the lease term, of minimum lease payments during the lease term, excluding that portion of the payments representing executory costs to be paid by the lessor, together with any profit thereon.

**§ 32.2682 Leasehold improvements.**

(a) This account shall include the original cost of leasehold improvements made to telecommunications plant held under a capital or operating lease, which are subject to amortization treatment. This account shall also include those improvements which will revert to the lessor.

(b) Improvements to leased telecommunications plant which are of a relatively minor cost or short life or for which the period of the lease is one year or less shall be charged to the account chargeable with the cost of repairs to such plant.

(c) Amounts contained in this account shall be amortized over the term of the related lease. For Class A companies, except mid-sized incumbent local exchange carriers, the amortization associated with the costs recorded

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in the Leasehold improvement account will be credited directly to this asset account, leaving a balance representing the unamortized cost.

[51 FR 43499, Dec. 2, 1986, as amended at 67 FR 5687, Feb. 6, 2002; 69 FR 53649, Sept. 2, 2004]

**§ 32.2690 Intangibles.**

(a) This account shall include the cost of organizing and incorporating the company, the original cost of government franchises, the original cost of patent rights, and other intangible property having a life of more than one year and used in connection with the company's telecommunications operations.

(b) Class A companies, except mid-sized incumbent local exchange carriers, shall maintain subsidiary records for general purpose computer software and for network software. Subsidiary records for this account shall also include a description of each class of all other tangible property.

(c) The cost of other intangible assets, not including software, having a life of one year or less shall be charged directly to Account 6564, Amortization expense—intangible. Such intangibles acquired at small cost may also be charged to Account 6564, irrespective of their term of life. The cost of software having a life of one year or less shall be charged directly to the applicable expense account with which the software is associated.

(d) The amortization associated with the costs recorded in the Intangibles account will be credited directly to this asset account, leaving a balance representing the unamortized cost.

(e) This account shall not include any discounts on securities issued, nor shall it include costs incident to negotiating loans, selling bonds or other evidences of debt, or expenses in connection with the authorization, issuance, sale or resale of capital stock.

(f) When charges are made to this account for expenses incurred in mergers, consolidations, or reorganizations, amounts previously included in this account on the books of the various companies concerned shall not be carried over.



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## SECTION 1. PURPOSE

This revenue procedure provides two alternative safe harbor approaches that taxpayers may use to determine whether expenditures to maintain, replace, or improve wireless network assets must be capitalized under § 263(a) of the Internal Revenue Code: a network asset maintenance allowance method or a units of property method. This revenue procedure also provides procedures for obtaining automatic consent to change to either safe harbor method of accounting permitted by this revenue procedure.

## SECTION 2. BACKGROUND

.01 Taxpayers that provide wireless telecommunication services incur significant expenditures to maintain, replace, and improve wireless network property. Whether these expenditures are deductible as repairs under § 162 or must be capitalized as improvements under § 263(a) depends on whether the expenditures materially increase the value of the property or substantially prolong its useful life. See § 1.162-4 of the Income Tax Regulations. Applying capitalization principles to wireless network assets can be particularly difficult, largely because the property consists of a network of interconnected items such as mobile telephone switching offices and property located at cell sites. Taxpayers and the Internal Revenue Service often do not agree on which items within this network constitute discrete units of property and whether the replacement of a particular item materially increases the value or substantially prolongs the useful life of a unit of property.

.02 To minimize disputes regarding the deductibility or capitalization of expenditures to maintain, replace, or improve wireless network assets, this revenue procedure provides two alternative safe harbor approaches. Section 5 provides a wireless "network asset maintenance allowance method" for determining the amount of expenditures required to be capitalized under § 263(a). Section 6 defines units of property that may be adopted and to which existing principles under § 263(a) are applied.

.03 A taxpayer's method for determining whether an expenditure is deductible or is capitalizable is a method of accounting under § 446. Except as otherwise expressly provided by the Code or the regulations thereunder, § 446(e) and § 1.446-1(e)(2) require a taxpayer to secure the consent of the Commissioner of Internal Revenue before changing a method of accounting for federal income tax purposes. Section 1.446-1(e)(3)(ii) authorizes the Commissioner to prescribe administrative procedures setting forth the limitations, terms, and conditions necessary to permit a taxpayer to obtain consent to change a method of accounting. Section 7 of this revenue procedure provides the procedures by which a taxpayer may obtain automatic consent for a change in method of accounting to adopt either of the alternative safe harbor approaches provided by this revenue procedure.

## SECTION 3. SCOPE

This revenue procedure applies to a taxpayer that has a depreciable interest in wireless network assets (as described in section 4 of this revenue procedure) used primarily to provide wireless telecommunication or broadband services by mobile phones (for example, cell phones or smartphones). This revenue procedure does not apply to a taxpayer that is primarily a cable operator. The determination of whether a taxpayer is within the scope of this revenue procedure is made by each member of a consolidated group, by a partnership, or by an S corporation.

## SECTION 4. DEFINITIONS

The following definitions apply solely for purposes of this revenue procedure:

.01 *Wireless network assets.* "Wireless network assets" means all personal and real property used by a wireless telecommunications carrier to provide wireless telecommunication or broadband services by mobile phone. Wireless network assets include a mobile telephone switching office (MTSO) and property located at cell sites. Wireless network assets do not include personal or real property not directly used to provide wireless telecommunication or broadband services by mobile phone, such as a corporate office building and the furniture and equipment used in an office building.

.02 *Mobile telephone switching office.* "Mobile telephone switching office" (MTSO) means a central switching facility that transmits wireless voice and data (including video) communications to and from cell sites and other equipment that comprise the wireless network, and also connects the wireless network to the wireline network (public switched telephone network). The MTSO and its equipment are powered by conventional electrical service with back-up support from electric generators or battery systems.

.03 *MTSO equipment.* "MTSO equipment" means the equipment located at a MTSO and typically includes computer-based switching equipment and related equipment at the MTSO (including the computer-based switching equipment, base station controllers (or generational equivalent), radio network controllers, mobility managers, operations and management platforms, protocol handlers, vocoders, modems, cross-connects, optical-cross connect bays, and associated cables), dedicated heating, ventilation, and air conditioning (HVAC) equipment and dedicated power (including battery backup system) for the computer-based switching equipment and related equipment at the MTSO.

.04 *Cell site transmission equipment.* "Cell site transmission equipment" includes the antenna systems (including the antenna itself, antenna cables, microwave equipment, RET equipment, and the RET central control unit (CCU) controller) but does not include base transceiver station radio cabinets or cell site support and other equipment.

.05 *Cell site radio equipment.* "Cell site radio equipment" includes the base station controller (or generational equivalent), base transceiver station (or generational equivalent), their own weather proof enclosure or cabinet (including any equipment integrated into or built into the base station controller or base transceiver station; for example, integrated or built-in equipment might include HVAC and power equipment, alarms, enhanced 911 service equipment, or the RET CCU controller), and associated cables.

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.06 *Cell site support equipment.* "Cell site support equipment" includes the alarms or enhanced 911 service equipment not integrated into or built into a base station controller or base transceiver station, and associated cables. This unit of property does not include general incoming power panels, general receptacles, general lighting, common cell site enclosure grounding systems, or equipment integrated into or considered part of the cell site enclosure.

## SECTION 5. NETWORK ASSET MAINTENANCE ALLOWANCE METHOD FOR WIRELESS NETWORK ASSETS

.01 *In general.* Under the network asset maintenance allowance method, the taxpayer must determine the amount of its wireless network asset expenditures that are not required to be capitalized under section 5.02 of this revenue procedure (network asset maintenance allowance) and the amount of wireless network asset expenditures that are treated as § 263 (a) capital expenditures under section 5.03 of this revenue procedure (§ 263(a) capital expenditures). A taxpayer that uses the network asset maintenance allowance method described in this section 5 must use that method for all of its wireless network asset expenditures (which includes expenditures relating to wireless network assets acquired in an applicable asset acquisition as defined in § 1060 or in a transaction to which § 338(h)(10) applies, even though the cost of such property is removed from the total cost of capital additions for the taxable year as provided in § 5.02(2)(b)-(c) below).

.02 *Network asset maintenance allowance.* The amount of the network asset maintenance allowance for a particular taxable year is determined as follows:

- (1) Start with the total cost of capital additions for financial statement purposes that are placed in service (within the meaning of § 1.46-3(d)(1)(ii)) during the taxable year.
- (2) Decrease the amount determined in (1) by the following amounts:
  - (a) the cost of property other than wireless network assets;
  - (b) the cost of any wireless network assets acquired in an applicable asset acquisition as defined in § 1060; and
  - (c) the cost of any wireless network assets acquired in a transaction to which § 338(h)(10) applies.
- (3) Adjust the amount determined after applying steps (1) and (2) to determine the adjusted basis of the property under § 1011, including any adjustments described in § 1016 except for the following:
  - (a) Any basis adjustments attributable to changes made after December 31, 2007 to the taxpayer's unit of property definitions used for repair versus capitalization determinations.
  - (b) Any adjustments described in § 1016(a)(2) and § 1016(a)(3) and any adjustments that require tax basis to be reduced before depreciation is computed (e.g., § 179, § 179D, or similar provisions; § 44 and § 46; and the payments for specified energy property under § 1603 of the American Recovery and Reinvestment Tax Act of 2009, Division B, Pub. L. 111-5, 123 Stat. 115 (section 1603 payments)).
- (4) Using the adjusted basis determined in step (3), determine the amount attributable to 5-year, 7-year, and 15-year property and nonresidential real property, and multiply each of these amounts by 5%. The result is the network asset maintenance allowance for each class of property.
- (5) The sum of the network asset maintenance allowances determined in (4) for each class of property is the taxpayer's network asset maintenance allowance amount for the taxable year.

.03 *§ 263(a) capital expenditures.* The wireless network asset capital expenditures for § 263(a) for the taxable year under the network asset maintenance allowance method are determined as follows:

- (1) Start with the adjusted basis for 5-year, 7-year, and 15-year property and nonresidential real property determined in section 5.02(4) above.
- (2) For each class of property, multiply the adjusted basis attributable to the class of property by 95%. The result is each class of property's basis amount after taking into account the network asset maintenance allowance.
- (3) For each class of property, allocate that class of property's basis amount determined in 5.03(2) among the class of property's wireless network assets (excluding wireless network assets acquired in an applicable asset acquisition as defined in § 1060 or in a transaction to which § 338(h)(10) applies) according to the basis of each wireless network asset determined before application of the network asset maintenance allowance.
- (4) The amount determined in (3) for each network asset (excluding wireless network assets acquired in an applicable asset acquisition as defined in § 1060 or in a transaction to which § 338(h)(10) applies) is the basis of such asset to be used to determine the deductions allowable or income tax credits available that require tax basis to be reduced before any depreciation is computed (for example, § 179, § 179D, or similar provisions; § 44 and § 46; and section 1603 payments). The net amount for each network asset after the reduction in basis for such deductions, credits, and section 1603 payments is that property's § 1.168(b)-1(a)(3) unadjusted depreciable basis.
- (5) In addition, expenditures for wireless network assets acquired in an applicable asset acquisition as defined in § 1060 or in a transaction to which § 338(h)(10) applies are capital expenditures under § 263(a) to which the ordinarily applicable basis and holding period rules and regulations apply.

.04 *Required schedule.* A taxpayer utilizing the network asset maintenance allowance method must attach a schedule to its federal income tax return for the taxable year identifying the amounts for each step of the network asset maintenance allowance method computation provided in sections 5.02(1)-(5) above.

.05 *Example.* X is a wireless telecommunications carrier with wireless network assets used primarily to provide wireless telecommunication or broadband services by mobile phones. X adopts the wireless network asset maintenance allowance method provided in this revenue procedure. To determine the wireless network asset maintenance allowance for the taxable year, X first determines its adjusted basis attributable to wireless network assets as follows:

Total cost of capital additions placed in service for the taxable year per financial statements	\$1,000,000,000
Less: Cost of property other than wireless network assets (e.g. land, intangibles, etc.)	(\$100,000,000)
Less: Cost of assets acquired in a § 1060 or § 338(h)(10) transaction	(\$11,000,000)
Less/Plus: Other basis adjustments (excluding adjustments per IRC §§ 1016(a)(2) & (a)(3) and sections 5.02(3)(a) & 5.03(4) of this rev. proc.)	(\$3,000,000)
Adjusted basis attributable to network assets that are 5-year, 7-year, and 15-year property and nonresidential real property	\$886,000,000
Multiply by: Maintenance allowance percentage (5%)	X 5%
Network asset maintenance allowance amount	\$44,300,000

## SECTION 6. UNITS OF PROPERTY FOR WIRELESS NETWORK ASSETS

.01 *In general.* For wireless network assets, the Service will not challenge any of the following unit of property determinations for purposes of the application of § 263(a) and the regulations thereunder:

(A) the MTSO building (including its structural components) constitutes a single unit of property;

(B) all of the MTSO equipment constitutes a single unit of property;

(C) all cell site transmission equipment at a cell site constitutes a single unit of property;

(D) all cell site radio equipment at a cell site constitutes a single unit of property;

(E) all cell site support equipment at a cell site constitutes a single unit of property;

(F) the antenna support structure (also known as a tower) affixed to a foundation (for example, a concrete foundation, a building rooftop, or a building wall) at a cell site constitutes a single unit of property;

(G) the concrete foundation upon which the antenna support structure is installed, including the bolts embedded therein and other depreciable assets associated with the platform or other forms of anchoring to affix a tower to a foundation, constitutes a single unit of property;

## Exhibit 29

(H) the cell site enclosure (hut) and the cement slab or foundation upon which the hut is installed constitute a single unit of property; and

(I) all depreciable land improvements at a cell site constitute a single unit of property. Depreciable land improvements include landscaping that is replaced when a related depreciable asset is replaced, fences, and sidewalks, but exclude enclosures or buildings suitable for occupation and any improvements properly capitalized to the land.

.02 *Universal adoption not required.* A taxpayer within the scope of this revenue procedure is not required to adopt all of the unit of property determinations provided in section 6.01 of this revenue procedure and, therefore, may adopt one or more of the unit of property determinations provided. Once adopted, however, a unit of property determination applies to all similar assets, including similar wireless network assets acquired in an applicable asset acquisition as defined in § 1060 or in a transaction to which § 338(h)(10) applies.

.03 *Limitation.* The unit of property determinations provided in this revenue procedure shall not apply for any other purpose of the Code or Regulations, including for determining the unit of property under other Code sections (for example, § 263A), or determining the asset for depreciation purposes (including placed in service, retirements, dispositions, or classification under § 168(e) or Rev. Proc. 87-56, 1987-2 C.B. 674), for the same or similar type of assets used in wireless telecommunications or other industries.

## SECTION 7. CHANGE IN METHOD OF ACCOUNTING

.01 *In general.* A change to (1) the wireless network asset maintenance allowance method or (2) adoption of all, or some, of the units of property described in this revenue procedure is a change in method of accounting to which the provisions of §§ 446 and 481, and the regulations thereunder, apply. A taxpayer that wants to change to a method of accounting described in this revenue procedure must use the automatic change in method of accounting provisions in Rev. Proc. 2011-14, 2011-4 I.R.B. 330, or its successor, as modified by this revenue procedure.

.02 *Automatic change.* Rev. Proc. 2011-14 is modified to add new section 3.08 to the APPENDIX, to read as follows:

.08 *Wireless network asset maintenance allowance and units of property methods of accounting under Rev. Proc. 2011-28.*

(1) *Description of change.* This change applies to a wireless telecommunications carrier that is within the scope of Rev. Proc. 2011-28 and wants to change its treatment of wireless network asset expenditures to adopt either (a) the wireless network asset maintenance allowance method of accounting or (b) all, or some, of the units of property described in Rev. Proc. 2011-28.

(2) *Waiver of scope limitations.* The scope limitations in section 4.02 of this revenue procedure do not apply to a wireless telecommunications carrier that changes to a method of accounting provided in section 5 or section 6 of Rev. Proc. 2011-28 for its first or second taxable year ending after December 30, 2010.

(3) *Section 481(a) adjustment.* In general, a change to the wireless network asset maintenance allowance method of accounting or adoption of all, or some, of the units of property specified in Rev. Proc. 2011-28 requires an adjustment under § 481(a). The § 481(a) adjustment shall not include any amount attributable to property for which the taxpayer elected to apply the repair allowance under § 1.167(a)-11(d)(2).

(4) *Ogden copy of Form 3115 required in lieu of national office copy.* A taxpayer changing its method of accounting under section 3.08 of the APPENDIX must file a signed copy of its completed Form 3115 with the IRS in Ogden, UT, (Ogden copy) in lieu of filing the national office copy no earlier than the first day of the year of change and no later than the date the taxpayer files the original Form 3115 with its federal income tax return for the year of change. See sections 6.02(3)(a)(ii)(B) (providing the general rules) and section 6.02(7)(b) (providing the mailing address) of this revenue procedure.

(5) *Designated automatic accounting method change numbers.* The designated automatic accounting method change number for a change to the method of accounting provided in Rev. Proc. 2011-28 is "159."

(6) *Contact information.* For further information regarding a change under this section, contact Alan S. Williams at (202) 622-4950 (not a toll-free call).

## SECTION 8. EFFECT ON OTHER DOCUMENTS

Rev. Proc. 2011-14 is modified to include the accounting method change in this revenue procedure in section 3 of the Appendix.

## SECTION 9. EFFECTIVE DATE

This revenue procedure is effective for taxable years ending on or after December 31, 2010.

## SECTION 10. DRAFTING INFORMATION

The principal author of this revenue procedure is Alan S. Williams of the Office of Associate Chief Counsel (Income Tax & Accounting). For further information regarding this revenue procedure, contact Alan S. Williams at (202) 622-4950 (not a toll-free call).

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# Cable TV Asset Descriptions





## Internal Revenue Bulletin: 2003-32

August 11, 2003

Rev. Proc. 2003-63

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### SECTION 1. PURPOSE

This revenue procedure provides a safe harbor method under which the Internal Revenue Service will treat a fiber optic node and trunk line consisting of fiber optic cable used in a cable television distribution system providing one-way and two-way communication services as the unit of property for computing depreciation under §§ 167 and 168 of the Internal Revenue Code.

### SECTION 2. BACKGROUND

.01 Cable television companies provide broadcast and video programming to subscribers. In recent years, many companies have upgraded their systems to provide new cable services such as digital television, internet access through a cable modem, and telephony. Upgraded systems use fiber optic cable because optic fibers have immense capacity and are reliable, and transmissions over them are not susceptible to interference by outside signals. The fiber optic strands of glass (optic fibers) within fiber optic cables carry analog or digital signals in the form of light waves. In comparison, coaxial cable carries radio frequency signals. Bandwidth is the range of radio frequencies or light spectrum available for use by cable television distribution systems for transmission.

.02 The design of cable television distribution systems varies considerably throughout the country. Programming normally originates from an antenna, satellite, microwave, film, or videotape and is fed into the headend. The headend is electronic equipment that receives programming signals and combines, amplifies, and converts the programming signals for transmission throughout the system. The distribution plant conveys the programming signals from the headend to subscribers. The distribution plant generally consists of optic transmission and receiver devices, fiber optic cable (used as trunk lines), fiber optic transfer nodes ("nodes" containing optical receivers and reverse optical transmitters), coaxial cable (used as feeder or distribution cables), amplifiers, taps, and coaxial drop cables to the subscribers' properties.

.03 A fiber optic cable usually contains several bundles of optic fibers. Many cable television distribution systems dedicate one bundle from the headend to each node. The nodes are the point of interface between the fiber optic cable and the feeder or distribution cables, which carry the signals to, and past, subscribers' properties. Fiber optic cable and node function together as an integrated unit. Nodes, however, are not usually interconnected or dependent on one another; each node operates independently of other nodes.

.04 Subscribers generally cannot receive two-way communication services until the node serving them is connected to the equipment necessary for the services. In order to provide two-way communication services, usually two optic fibers are connected between the headend and the node, even though the bundle of fibers dedicated to the node may contain more than two fibers. Typically, one optic fiber is used for transmitting data downstream from the headend to subscribers and another optic fiber is used for transmitting data upstream from subscribers.

.05 Section 167(a) provides that there shall be allowed as a depreciation deduction a reasonable allowance for the exhaustion, and wear and tear of property used in a trade or business or held for the production of income.

.06 The depreciation deduction provided by § 167(a) for tangible property placed in service after 1986 generally is determined under § 168. Section 168 prescribes two methods of accounting for computing depreciation: the general depreciation system in § 168(a); and the alternative depreciation system (ADS) in § 168(g). Under either depreciation system, the depreciation deduction is computed by using a prescribed depreciation method, recovery period, and convention.

.07 Rev. Proc. 87-56, 1987-2 C.B. 674, as clarified and modified by Rev. Proc. 88-22, 1988-1 C.B. 785, sets forth the class lives of property that are necessary to compute depreciation under § 168. Rev. Proc. 87-56 prescribes asset class 48.41, "CATV [Cable Television]-Headend," which includes assets such as towers, antennas, preamplifiers, converters, modulation equipment, and program non-duplication systems. This asset class has a class life of 11 years, which means that the property in this asset class is classified as 7-year property under § 168(e)(1) with an applicable recovery period of 7 years under § 168(c) and a recovery period of 11 years under § 168(g).

.08 Rev. Proc. 87-56 prescribes Asset Class 48.42, "CATV-Subscriber Connection and Distribution Systems," which includes assets such as trunk and feeder cable, connecting hardware, amplifiers, power equipment, passive devices, directional taps, pedestals, pressure taps, drop cables, matching transformers, multiple set connector equipment, and converters. This asset class has a class life of 10 years, which means that the property in this asset class is classified as 7-year property under § 168(e)(1) with an applicable recovery period of 7 years under § 168(c) and a recovery period of 10 years under § 168(g). Rev. Proc. 87-56 excludes from CATV asset classes 48.41 and 48.42 assets used to provide subscribers with two-way communication services.

.09 Rev. Proc. 87-56 assigns a class life of 24 years to property described in asset classes 48.31 to 48.45 that is comparable to property described in asset class 48.14, "Telephone Distribution Plant," and used for two-way exchange of voice and data communication which is the

equivalent of telephone communication. Comparable equipment does not include cable television equipment used primarily for one-way communication. See also § 168(e)(3)(E)(ii) and § 168(g)(3)(B), under which any telephone distribution plant and comparable equipment used for two-way exchange of voice and data communications is 15-year property with an applicable recovery period of 15 years under § 168(c) and a recovery period of 24 years under § 168(g).

.10 Under § 1.167(a)-11(b)(4)(iii)(b) of the Income Tax Regulations, property is included in the asset guideline class for the activity in which the property is primarily used. Property is classified according to primary use even though the activity in which such property is primarily used is insubstantial in relation to all the taxpayer's activities.

.11 Property is first placed in service in the taxable year in which the property is placed in a condition or state of readiness and availability for a specifically assigned function, whether in a trade or business, in the production of income, in a tax-exempt activity, or in a personal activity. See § 1.46-3(d)(1)(ii).

### SECTION 3. SCOPE

.01 *Applicability.* This revenue procedure applies to taxpayers operating cable television distribution systems designed to provide one-way and two-way communication services to subscribers.

.02 *One-way and two-way communication services.* For purposes of this revenue procedure, one-way communication services involve services in which broadcast and video programming signals are sent only downstream, that is, from the headend to subscribers; and two-way communication services involve services in which property is used for the two-way exchange between the headend and subscribers of voice and data communications which is the equivalent of telephone communication. Internet access through a cable modem and telephony (including IP (internet protocol) telephony also known as voice-over IP) are examples of two-way communication services.

### SECTION 4. SAFE HARBOR METHOD

.01 *Unit of Property.* The unit of property for calculating depreciation under §§ 167 and 168 is a node and the fiber optic cable to that node, exclusive of any fiber optic cable previously considered placed in service under section 4.03 of this revenue procedure and any optic fibers sold by a taxpayer. Thus, for example, if a taxpayer has a fiber optic cable containing 20 bundles of 6 optic fibers (120 total optic fibers) and connects 2 optic fibers to a node, the fiber optic cable (including all 120 optic fibers) is a component of the unit of property.

.02 *Determining primary use.* In determining whether the unit of property described in section 4.01 of this revenue procedure is primarily used, within the meaning of § 1.167(a)-11(b)(4)(iii)(b), for providing one-way or two-way communication services, a cable television company must determine primary use by using any reasonable manner that is consistently applied to the taxpayer's units of property described in section 4.01 of this revenue procedure. If the unit of property is primarily used for providing one-way communication services, the unit of property is assigned to asset class 48.42, "CATV-Subscriber Connection and Distribution Systems," and classified as 7-year property under § 168(e)(1) with an applicable recovery period of 7 years under § 168(c) and a recovery period of 10 years under § 168(g). However, if the unit of property is primarily used for providing two-way communications services, § 168(e)(3)(E)(ii) classifies the unit of property as 15-year property with an applicable recovery period of 15 years under § 168(c) and a recovery period of 24 years under § 168(g). For purposes of this revenue procedure, a cable television company may determine primary use based on either: the node within the unit of property described in section 4.01 of this revenue procedure; or the applicable cable television distribution system for each headend, provided the cable television company maintains its books and records based on each headend.

(1) *Reasonable manner.* A reasonable manner includes, but is not limited to, determining primary use by gross receipts or by subscriber count for each service within the applicable cable television distribution system. However, for purposes of this safe harbor method, determining primary use by bandwidth is not considered reasonable.

(2) *Change in primary use.* If the primary use of the unit of property described in section 4.01 of this revenue procedure changes from providing either one-way communication services to two-way communication services, or two-way communication services to one-way communication services, § 168(i)(5) applies beginning in the year of the change in use.

.03 *Placed in service.* The unit of property described in section 4.01 of this revenue procedure is considered placed in service for depreciation purposes when placed in a condition or state of readiness and availability for its specifically assigned function. The specifically assigned function of a cable television company's distribution system is to provide services to subscribers. Thus, when a node is connected to the equipment necessary for providing one-way or two-way communication services to subscribers or potential subscribers, the property is considered placed in service for purposes of §§ 167 and 168. Although a fiber optic cable may contain more optic fibers than are necessary to serve a single node, all optic fibers in the unit of property are considered placed in service when the node is ready and available as described above and connected to at least one optic fiber in the fiber optic cable.

.04 *Consistent treatment.* Taxpayers using the unit of property described in section 4.01 of this revenue procedure must use it for all of a headend's nodes and fiber optic cable. Except as provided in section 4.02 of this revenue procedure, taxpayers are required to treat the unit of property consistently for all purposes under §§ 167 and 168 and the regulations thereunder.

### SECTION 5. CHANGE IN METHOD OF ACCOUNTING AND AUDIT PROTECTION

.01 *Change in method of accounting.* A change in a taxpayer's depreciation treatment of cable television distribution systems (as described in section 4 of this revenue procedure) is a change in method of accounting to which §§ 446(e) and 481 apply. If a taxpayer within the scope of this revenue procedure wants to change to the safe harbor method provided in this revenue procedure for cable television distribution systems (as described in section 4 of this revenue procedure) that are owned by the taxpayer at the beginning of the year of change, the taxpayer must follow the automatic change in method of accounting provisions in Rev. Proc. 2002-9, 2002-1 C.B. 327 (as modified and amplified by Rev. Proc. 2002-19, 2002-1 C.B. 696, amplified, clarified, and modified by Rev. Proc. 2002-54, 2002-35 I.R.B. 432, and modified and clarified by Announcement 2002-17, 2002-1 C.B. 561) or any successor, with the following modifications:

(1) The scope limitations in section 4.02 of Rev. Proc. 2002-9 do not apply to a taxpayer that wants to change to the safe harbor method for either its first or second taxable year ending after December 31, 2001; and

(2) To assist the Service in processing changes in method of accounting under this section of the revenue procedure, and to ensure proper handling, section 6.02(4)(a) of Rev. Proc. 2002-9 is modified to require that a Form 3115 filed under this revenue procedure include the statement: "Automatic Change Filed Under Rev. Proc. 2003-63." This statement should be legibly printed or typed on the appropriate line on the Form 3115.

.02 *Audit protection.* If a taxpayer currently uses a method consistent with the safe harbor method (as described in section 4 of this revenue procedure), the method of accounting for depreciation of the taxpayer's property described in section 4.01 will not be raised as an issue by the Service in a taxable year that ends before August 11, 2003. Also, if a taxpayer currently uses a method consistent with the safe harbor method (as described in section 4 of this revenue procedure) and its use of that method is an issue under consideration (within the meaning of section 3.09 of Rev. Proc. 2002-9) for taxable years in examination, before an appeals office, or before the U.S. Tax Court in a taxable year that ends before August 11, 2003, that issue will not be further pursued by the Service.



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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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## 7.2 CABLE TELEVISION SYSTEMS

This section includes an introduction to CATV systems, a review of the description of a system, governmental regulation and the classification of the property for ad valorem taxation.

Be advised that taxpayers may contest the classification as real property or tangible personal property, as well as the valuation and such appeals will be handled in the same manner as other local assessment appeals.

### 1. Cable Television Systems

Cable television (also called CATV or Community Antenna Television) was first put into commercial operation in the late 1940's. The early systems developed in communities that were unable to receive TV signals because of their distant location from the TV stations. Cable systems began constructing antennas in places that could receive television broadcast signals, and then distributing the signal by copper cable to subscribers for a fee. The CATV systems soon began developing in large metropolitan areas because good reception was being obstructed by building growth. By 1975, satellite communication was implemented, which enabled cable companies to broadcast multiple channels that were being received via satellite. The first program of this type was Time Inc.'s Home Box Office (HBO) which offered uninterrupted first run movies.

The channel capacity of the cable system makes both radio and television broadcast possible. Additionally, many systems offer wire services such as news, weather and stock market reports, and network programming that offers movies, sports and special features. Some cable operators also have studio facilities that enable the system to originate local programming which can provide access channels for public use. The State of Missouri has several hundred cable systems operating in the state serving hundreds of thousands of subscribers.

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**A. Definition of System**

A cable television system receives signals from local broadcast stations, or can receive distant signals via microwave or satellite relay. Once these signals are received, they are amplified and distributed through the cable network, which is ultimately connected to the subscribers' television sets. A CATV system can be classified into three major asset categories: (1) Headend, (2) Distribution, and (3) Subscriber connection.

Cable companies will typically own or lease the land on which the headend equipment is located. However, they generally do not own the land on which the distribution system is placed. The companies will install trunk and distribution cable either overhead or underground depending on how the existing utility lines are installed.

**(1) Headend**

The term headend typically refers to two types of equipment. The first, which actually receives the broadcast signal, is known as the antenna. The signal is received by either an off-air antenna, microwave receiver or satellite receiver. Many systems have one or more of these receivers strategically located so as to ensure good reception and relay of the broadcast signal. The second type of equipment (generally referred to as headend) is the electronic processing equipment. This equipment is located inside a building and is the electronic control center of the system. The broadcast signals are passed from the antenna to decoders, modulators and amplifiers which separate the audio and video signals and filter out any interfering signals. Electronic monitors are used to ensure that proper signal reception is maintained. Amplifiers are then used to reassemble the picture and sound and adjust the signal to the correct levels; the signal is then transmitted to the subscriber via the distribution system.

**(2) Distribution**

The distribution system is made up of cable and amplifiers that carry the signals from the headend to the subscriber. The largest cable, approximately one-inch in diameter, comes directly from the headend and is called a trunk line. Branching off the trunk lines are feeder lines. Each feeder line is connected to the trunk line via a bridger amplifier. The bridger amplifier draws a signal from the trunk line for distribution to the subscribers.

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This amplifier will also provide protection against electronic surges in the feeder lines.

Both trunk and feeder lines have electronic amplifiers installed along the cable. This is necessary because as the signal travels long distances the signal quality will diminish, which results in "snowy" pictures. To provide constant signal strength, amplifiers are installed along the distribution system. Trunk amplifiers are located approximately every 1,800 feet along the trunk line. Feeder cable amplifiers (also called line extenders) are necessary depending upon the number of subscribers on the feeder line. As each subscriber taps onto the feeder line, the signal strength is decreased. If the signal strength drops below an acceptable tap port level, then a new line extender amplifier is necessary to increase the signal strength to a proper level.

In addition to amplifiers, it is necessary to locate a power supply every three to four miles along the cable system. This power supply maintains either 30 or 60 volts throughout the cable, and provides power to the trunk and line extender amplifiers. In overhead systems these units are typically mounted on utility poles and are completely weatherproof.

**(3) Subscriber Connection**

The final connection from the feeder line to the subscriber is called a subscriber drop. This consists of a device that is installed on the feeder line called a tap. The tap is then connected to a flexible drop that runs to the subscriber's home. A device called a trap may also be installed at this point. The trap will filter out pay channels that the subscriber does not wish to receive. The coaxial cable is then connected to an inside wall plate connector.

**B. Regulation**

The Federal Communications Commission (FCC) has regulatory authority over CATV systems to assure that franchise procedures and standards are used to encourage an equitable distribution of broadcast services around the country.

**C. Classification of Property for Ad Valorem Taxation**

The cable TV system is made up of tangible personal property and real property.

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Tangible personal property is defined to include every tangible thing being the subject of ownership or part ownership whether animate or inanimate, other than money, and not forming part or parcel of real property. Section 137.010(4).

Real property is defined to include land itself, whether laid out in town lots or otherwise, and all growing crops, buildings, structures, improvements and fixtures of whatever kind thereon, and all rights and privileges belonging or appertaining thereto. Section 137.010(3).

For purposes of this guideline, the value of a cable system would not include any buildings or motor vehicles. Their value should be determined in the same manner as other similar properties.

**(1) Real Property**

Items that would be considered as forming part or parcel of real property include:

**(a)** Towers, antennas, satellite receiver stations, and down leads - are structures which are affixed to either the ground or buildings with the intent that they remain in place for the useful life of the property.

**(b)** Distribution equipment - includes aerial or underground cable, trunk and feeder amplifiers, power supply equipment and any other equipment that is attached to the distribution system. This property is either affixed to utility poles, which are structures, or buried in the ground, with the intent that it remain in place for the useful life of the property. Pursuant to Chapter 137.010, this aerial equipment is considered real only when it is attached to installed poles owned by the CATV company. Otherwise, such items are considered personal property.

**(c)** Subscriber drops - consists of coaxial cable and taps. This property is also affixed to utility poles or buried in the ground. A subscriber drop is the final connection between the distribution system, or feeder line, and the subscriber.

Even though the FCC has issued rules defining cable home wiring, the rulings appear to deal specifically within the subscriber's home and not the wiring outside the house



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beyond 12" of the exterior wall or in common areas of multiple dwelling unit buildings. Therefore, the State Tax Commission guidelines hold that these subscriber drops are appurtenant to the distribution system and are, therefore, the property of the cable company.

As stated above, pursuant to Chapter 137.010, this equipment is considered real only when it is attached to installed poles owned by the CATV company. Otherwise, such items are considered personal property.

(d) Leasehold improvements - includes any improvements made to real estate owned by others.

(2) **Tangible Personal Property**

Items that would not be considered as fixtures, structures, or improvements to land and should be classified as personal property include:

(a) Distribution equipment - consisting of aerial cable, trunk and feeder amplifiers, power supply equipment and any other equipment that is considered part of the distribution system. Pursuant to Chapter 137.010, this aerial equipment is considered personal only when it is attached to installed poles not owned by the CATV company. Otherwise, such items are considered real property.

(b) Subscriber drops - includes coaxial cable and taps. This aerial equipment is considered personal only when the distribution system is attached to installed poles not owned by the CATV company.

(c) Converters and subscriber traps

(d) Headend equipment - electronic processing equipment

(e) Origination equipment

(f) Test tools and equipment

(g) Any other property not classified as real

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Cable TV personal property purchased after January 1, 2006 would be subject to taxation under the business personal property statutes. In 2005, §137.122, RSMo was enacted into law to provide for uniform assessment of business personal property beginning in 2007 for property put into service after January 1, 2006. To establish the assessment under that section, the following process must be followed:

1. The original cost paid by the current owner, less freight, installation, and sales or use taxes and date of purchase is reported by the owner. Assessors may access sample forms at [www.moassessorsassn.org/](http://www.moassessorsassn.org/) in the "Assessor Use Only" section.
2. The Class Life and Recovery period is determined by using IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods (see cite to IRS internet source below).
3. The assessor applies the proper depreciation schedule found in §137.122.3, RSMo, by applying the years since acquisition and the appropriate recovery period to determine the appraised value.
4. The appraised value is multiplied by the statutory assessment level for personal property, 33 1/3% to establish the assessed value.

To assess business personal property (BPP) pursuant to §137.122, RSMo, an assessing officer must determine the recovery period for each item. The Class Lives and Recovery Periods found in IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods provide the information necessary to establish these recovery periods. They are identified as GDS (MACRS) in Publication 946, where a detailed description of each of the asset classes can be found. To determine exactly how BPP should be depreciated, it is necessary to read the exact description from Publication 946, pages 98 through 107. An Adobe-Acrobat Reader is required to view, download, or print the publication. To access Publication 946, go to [www.irs.gov/pub/irs-pdf/p946.pdf](http://www.irs.gov/pub/irs-pdf/p946.pdf).

The State Tax Commission, utilizing IRS Publication 946, has provided a quick reference in two formats:

1. List of BPP Groups by Recovery Period The recovery periods established by §137.122, RSMo are 3, 5, 7, 10, 15 and 20 years. Accordingly, the first listing covers various groups of BPP organized by the length of the recovery periods applicable under MACRS. The depreciation factors (percent good of price paid by

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current owner for the item without freight, installation, or sales or use tax) established by §137.122, RSMo applicable to each group are also provided. The percent good factor is simply determined by matching the recovery period with the years since placed in service.

2. Alphabetical Listing of BPP Groups The second listing provides each type of property alphabetically followed by the Asset Class numbers and recovery period for that type of asset.

**NOTE:** The listings are abbreviated versions of the more detailed descriptions found in Publication 946. That publication must be consulted to accurately determine recovery periods.

The assessor should take into consideration any additional information that may be supplied by the cable operator.

For older property that was put into service prior to January 1, 2006, the State Tax Commission previously made available economic lives and a percent good table. That information is still available by request, but will no longer be maintained due to the new business personal property methodology being implemented into the future.